Unesco Source Book

Planning for health education in schools

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Unesco Source Book

Planning for health education in schools

A study undertaken by
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on behalf of UNESCO and WHO

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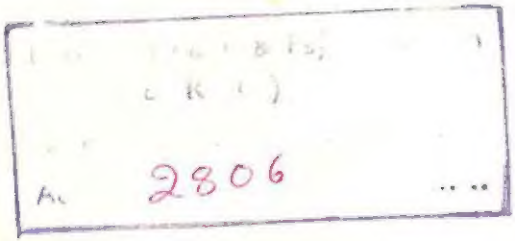

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Preface

'The United Nations Educational, Scientific and Cultural Organization and the World Health Organization, as the Specialized Agencies concerned with education and health respectively, recognize health education in schools as an important part of general education and a vital means of health promotion.'[1]

The production of this volume is one step in the continuing cooperative programme of Unesco and WHO to promote health education in schools and teacher training institutions. A preliminary draft was produced in English, French and Spanish and sent to Ministries of Education by Unesco and to Ministries of Health by WHO, with requests for comments, criticisms and relevant printed material. Ninety-four countries complied with this request. The present volume is based upon the preliminary draft, upon visits to several Member States, and upon the suggestions and publications sent to Unesco, as well as upon the extensive first-hand experience of the writer in school health education and adult health education in the United States of America and other countries.

If health education is to be effective, it must be adapted to local needs and conditions. This means that it must be planned nationally, regionally or locally depending upon the unit of population and the organization of education. It is hoped that this book will serve as a useful reference for such planning. As pointed out in the Introduction, it is in the nature of an annotated agenda for planning groups or curriculum committees. It raises major questions and records some of the ways in which these questions have been answered. It does not suggest a model programme for any school system. National, regional and local authorities, while drawing up curricula of their own, will feel free to pick up what is desirable

1. Statement by R. Maheu, Director-General of Unesco, and M. G. Candau, M.D., Director-General of WHO, when transmitting the preliminary edition of this publication to Ministries of Education and Ministries of Health for their comments and suggestions.

and practical from the extensive list of possibilities presented in the following pages.

Although this book presents a framework of health education from grade one up to teacher training institutions, it is recognized that a single curriculum committee will not, in most cases, produce outlines for all these academic levels. Countries, provinces, states and cities produce separate publications under such titles as 'Health Education in the Primary School'; 'Health Education in the Secondary School'; 'Health Education in Rural Schools' and 'Teacher Preparation for Health Education'.

Some governments may desire to produce national source books for the use of local or regional school systems in developing their own health education curricula. Permission may be secured from Unesco for direct quotation or for complete translation into other languages with whatever adaptation may be desired.

The author and the Secretariats of Unesco and WHO wish to express their gratitude to the many government officials and the many experts in health and in education who have read the preliminary document and made suggestions for the development of this book. Assistance has been received from: Afghanistan, Algeria, Argentina, Australia, Austria, Bahama, Basutoland, Bechuanaland, Borneo, Brazil, Bulgaria, Canada, Cameroun, Ceylon, Chile, Colombia, Congo (Brazzaville), Congo (Leopoldville), Costa Rica, Cyprus, Czechoslovakia, Denmark, Ecuador, El Salvador, Federal Republic of Germany, Finland, France, French Polynesia, French Somaliland, Gabon, Ghana, Greece, Guatemala, Honduras, Hungary, India, Indonesia, Iran, Iraq, Ireland, Israel, Italy, Jamaica, Japan, Jordan, Kenya, Korea, Liberia, Malaya, Mali, Mauritius, Mexico, Morocco, Nepal, Netherlands, New Caledonia, New Zealand, Nicaragua, Nigeria, Norway, Pakistan, Panama, Peru, Philippines, Poland, Portugal, Republic of China, Réunion, Rumania, Rwanda, Sarawak, Saudi Arabia, Senegal, Singapore, Somalia, South African Republic, Spain, Sweden, Switzerland, Tanzania, Thailand, Tonga, Turkey, Uganda, Union of Soviet Socialist Republics, United Arab Republic, United Kingdom, United States of America, Upper Volta, Venezuela, Vietnam, and Yugoslavia.

This assistance has been so extensive and so varied that it cannot be listed in detail. Suggested additions, deletions and changes in

the text have been sent in, as well as official government reports, committee reports, reports of valuable personal experience, reprints from professional journals, textbooks, syllabuses, teacher guides, curricula and programme outlines. Some replies from governments have indicated the names of the experts who gave assistance. Individuals from many countries have written directly. Several other Specialized Agencies and professional and voluntary health organizations have made helpful suggestions. It is hoped that the many men and women who have given their time and experience to this project will accept the recognition here given to their countries as an expression of thanks to themselves.

All the replies and material received reflect general agreement upon the framework of health education and a general belief that a source book of this type could be a useful reference work for planning groups. They also reflect wide interest in the continuing, creative and constructive process of planning for health education and a universal realization that a source book is useful, not in proposing a curriculum for adoption, but in suggesting possibilities for consideration by curriculum committees.

The statements and suggestions in this book are those of the author and do not necessarily reflect the views of the World Health Organization or of the United Nations Educational, Scientific and Cultural Organization.

Paris and Geneva
June 1965

Introduction

THIS IS a *reference book* for people who are planning health education programmes for schools and teacher training institutions. It *does not propose a model programme.* To do so would be as absurd as to attempt to design a model house for every family in the world.

Health problems differ sharply from one another. In some countries communicable diseases and nutritional deficiencies are chief causes of morbidity and mortality among children. In other countries they are relatively rare. Schools include the newly established multiple-class, one-teacher school in a tropical setting and the metropolitan school of hundreds of pupils in the steam-heated building of a snow-covered city. Cultural backgrounds, social customs and religious beliefs differ tremendously—as do foods, clothing, recreation, health problems, school systems and public health services.

Yet in spite of these differences, every group which is planning a health education programme is confronted by the same basic questions. Just as all homes meet certain needs for protection, privacy and a place to sleep and eat, and just as the home builder designs his house, within his resources, to meet those needs in his climate and social group, so health education planners recognize the same basic health needs and design programmes to meet these needs for particular school populations.

It is believed that this book will be used primarily as an *annotated agenda* by curriculum committees or planning groups who are developing health education programmes for primary schools, secondary schools or teacher training institutions. Its use should in no way bind the committee to a fixed procedure in developing the health education outline. The 'agenda' suggested here may be followed section by section with deletions and additions of topics as the committee wishes, *or* the committee may choose to follow an entirely different sequence of action, referring to individual topics in this source book for such suggestions as they have to offer.

The organization of the book presents the pertinent topics in the form of questions directed to planning groups. The annotation consists of statements of some of the answers which have been given to such questions in health education outlines in different parts of the world.

Consideration has been given to the suggestion that separate publications might be prepared for each of the three academic levels, and indeed that two publications might be prepared for primary schools, one for large urban industrial centres and one for new, rural, village or multiple-class schools. It was decided to produce the book in its present form because curriculum committees, whether considering the rural or urban primary school, the secondary school or the normal school may be interested to take note of the questions considered in the other situations.

0.1 Chapter organization

School health education programmes received from different countries present two different kinds of material: (1) general, philosophical orientation or background material, and (2) proposed activities to provide learning experiences in health.

The orientation or background material differs in scope and extent in the health education outlines sent to us. It includes statements of objectives, relationships and educational policy. Some such material is present in all the health education guides we have received, whether the guide is for primary schools, secondary schools or both. Chapter 1 deals with such orientation and background materials.

Chapter 2 deals with the planning of learning experiences in health education in the primary school. Chapter 3 deals with planning for health education in the secondary school; and Chapter 4 discusses health education in teacher training institutions.

Planning for effective health education in schools must consider all of the learning experiences in health at school or under the control of school personnel, not merely the formal classroom instruction in health or hygiene. The healthful environment of the school contributes to the pupil's education in health. He learns about his own health and its care from his contact with the school

physician or nurse in schools which have school health services. School and home relationships influence his health education.

The health education programmes in the schools of the world show that learning experiences in health are provided or influenced through:

1 Healthful school living
2 School health services
3 Health instruction
4 School, home and community relationships

0.2 Health education values

Education authorities and health authorities share a common interest in the health of children and youth. Today's schools seek to develop the kind of educated person who understands the basic facts about health and disease, protects and promotes his own health and that of his family, and helps to improve the health of the community. Health is generally recognized as a major objective of education. The work load is heavy in modern education and good health helps teachers and pupils to carry this load.

The basic responsibility of government for the maintenance and promotion of public health is met through health services and health education. Health and medical services contribute directly to the health of the child; so does hygienic living. Health education contributes not only to healthful living, but also the better understanding, appreciation and use of health services. Health education and health services are inseparably linked and mutually beneficial. Neither alone can enable a nation to reach its maximum health potential.

The need for planned and effective health education in this rapidly changing world, with new health problems, new possibilities of health promotion, cultural change, urban migration, industrialization, and new ways of living, is crystal clear. There is universal recognition of the responsibility of public education to help pupils and students acquire knowledge, habits, and attitudes which will contribute to individual, family, and community health. How well this is done depends upon the quality of the plan and the effectiveness of its execution.

Many statements could be cited reflecting the importance placed upon health education by experts in general education and by the public itself. The report of the International Advisory Committee of Unesco on the School Curriculum,[1] states that the first objective of primary education is 'to stimulate and guide the child's physical development and establish in him sound health habits'.

This same report proposes that the fields of instruction in the primary school should be:

1 Health and hygiene
2 Movement and physical education
3 The mother tongue language
4 The basic skills: reading, writing, arithmetic
5 Moral and spiritual values
6 Social studies: social and civic relationships
7 The natural world
8 The use of artistic and creative materials
9 Other fields, such as aesthetic appreciation.

Parents' assessment of the subjects in the primary school curriculum

Subject	Opinion (*percentage of replies*)		
	Important	*Unimportant*	*Useless*
Reading	98·9	0·9	0·2
Writing	98·7	0·8	0·5
Arithmetic	98·6	1·0	0·4
Geography	58·0	36·2	5·8
History	30·0	66·0	4·0
Natural science	32·0	31·0	37·0
Religion	54·6	30·2	15·2
Singing and music	16·0	32·8	51·2
Drawing	31·8	30·2	38·0
Gardening	18·0	28·0	54·0
Horticulture	33·3	51·7	15·0
Physical education	42·3	39·3	18·4
Manual work	30·0	48·0	22·0
Artistic appreciation	30·0	48·6	21·4
Domestic work	70·0	29·1	0·9
Care of the health	81·4	18·3	0·3

World Survey of Education: II—Primary Education, Paris, Unesco, 1958, p. 171.

1. International Advisory Committee on the School Curriculum, Second Session, 1957. *Report*, Unesco/ED/157, Paris, 6 May 1958, p. 7.

One example of parents' judgment as to the importance of teaching 'The care of health' is reflected in the table opposite from an enquiry carried out in Brazil among 3,000 parents. It shows that health education was considered to be more important than any other subject, except reading, writing and arithmetic.

0.3 Planned health education programmes

Increasingly, education authorities are instituting planned programmes of health education to aid teachers and other school personnel in developing optimal learning experiences in health. The majority of Member States of Unesco and WHO have taken some steps in this direction.

School health education programmes have been developed by countries, by states or provinces, by counties, and by cities. They vary in nature and in use. In some countries, outlines in health education indicate what is to be taught and teachers follow the outline closely. In other countries, teachers are given the educational objectives for each subject of instruction and wider latitude in developing their own lesson plans and teaching methods.

A recent Unesco monograph on primary education[1] states:

'At the risk of over-simplification, school systems may be regarded as falling into two groups. In the larger of these, a programme of instruction—which is really a syllabus—is drawn up, and standards are set, to which all the teachers must conform; in the most typical cases, the requirements decided upon by the central authority are set out in great detail. In the other group, the teacher is largely left free to direct his own work. He is responsible both for his methods and the choice of subjects which the pupils are to study, so as to reach a certain educational level. This system supposes, of course, that the teacher has received an adequate professional training and education, and that he is fully alive to his responsibilities.'

In some countries individual school systems are strongly urged to prepare their own health education programmes. It is generally recognized that, in any case, there must be adaptation to the health

1. Robert Dottrens: *The Primary School Curriculum*, Unesco, 1962, p. 82.

problems of the community, the class, and the individual pupil. Local education authorities which have developed their own health education programmes believe that planning on the local level has provided a degree of adaptation to local health needs and resources which has measurably increased the effectiveness of health education. They also indicate that such programme planning has provided a most worthwhile educational experience for the school personnel involved. Apparently such cooperative and creative planning, based upon an examination of local health problems and an investigation of available health resources, may be relied upon to give vision and enthusiasm for the execution of the programme. It is hoped that this book may be useful to local as well as to national programme-planning committees.

A planned programme in health education for the individual school system has many values. (1) It informs the teacher what the school administration expects in health education. (2) It outlines the activities and relationships of the different members of the school health team. (3) It presents a progressive outline or work plan by grades, suggesting to each teacher the objectives for his grade and avoiding the same programme for an individual child in succeeding years. (4) It specifies a time allotment for health education. (5) It suggests many teaching possibilities, methods, procedures and resources from which the teacher may choose. (6) It often suggests ways to evaluate results; and (7) it helps to ensure the completeness of the programme as a whole.

Through developing a health education curriculum a school administration says to its teachers, in effect: 'Here is a charted, but flexible plan for one phase of your work. You are expected to teach health and hygiene and to take the necessary time to do it. From this outline you can see what earlier grades have done and what your grade is expected to accomplish. Here you will find many suggestions as to methods.'

0.4 Accepted principles in planning for health education in schools

A review of international conferences dealing with health education in schools and an examination of policies set by curriculum

groups within Member States show that certain principles basic to the planning of health education are widely accepted.

1 Levels of instruction

The Conference on public education of the International Bureau of Education in 1946 recommended to the Ministries of Education 'that instruction in hygiene and health education be compulsory in infant schools, primary and secondary schools, post-school courses, teacher training colleges and normal schools, though not necessarily in the form of definite lessons'.

2 Cooperation

Cooperative relationships between public health and public education to improve all aspects of school health have been widely endorsed. The Manila 'Seminar on Child Health and the School' sponsored by WHO and Unesco, 27 November–8 December 1961, stated in its report: 'The group considers it important that Joint School Health Committees be set up at Ministerial level. These committees should be widely representative and should enlist the cooperation of all groups interested in school health. It might be advisable to have comparable committees at other levels.'

3 Adaptation

Health education programmes should grow out of the health problems which the country is facing and be specifically related to health needs, available personnel, facilities and equipment. Many statements reflect the importance of basing each plan upon an extensive knowledge of morbidity and mortality, and upon a knowledge of the local beliefs, customs and superstitions, especially those which lead to ill health and interfere with hygienic living. Ethnic differences, religious taboos, family structure, dress, housing, methods of living and climatic conditions are among the factors which determine what needs to be done and what can be done.

National outlines in health education are adapted to local problems and needs as they are used in local communities. Indeed most important of all is the adaptation of health education to the needs of the individual child by the classroom teacher, especially in the primary school. The teacher comes to understand the physical, social and emotional needs of the pupil through observing his deviations from customary behaviour, through the questions he

asks, through talking with parents and the child himself about his out-of-school activities and problems. The pupil's habits of eating, sleeping and play are noted. General appearance and signs of fatigue are observed. Relationships within the family and with other children are taken into account.

In highly developed school systems the teacher gets further knowledge of the pupil through records of attendance, of scholastic achievement and of health. Growth charts and the results of vision and hearing tests provide valuable information. From a basis of such friendly understanding the teacher can give the individual child the occasional suggestions, encouragement, guidance and help which he needs.

4 Field trial of proposed curricula

Actual use of a health education outline or teacher guide is the best way to find its strength and weaknesses. In some cases, outlines have been tried out in pilot projects. In all cases the revision of the outline from time to time can take advantage of experience in its use.

5 School, home and community relations

Programme-planning groups realize that the child's health behaviour has been influenced by practices in the home before he comes to school and that he has health experiences in that part of his day which is spent outside of school. In some countries a large percentage of the children have preschool attendance at crèches and kindergartens. Health education in school and in the home and community should go forward together in order that there shall be minimum conflict between the health practices recommended at school and at home. Comments from developing countries have indicated that this is of great importance in those areas where current concepts and practices relating to communicable disease, nutrition and other health problems are sharply at variance with the dictates of modern science.

6 Teacher preparation

The pre-service preparation of teachers in health education and their further in-service training, as needed, are recognized as of great importance to the quality of health education in schools.

7 Time allotment

The amount of time given to health education and the intensity of the programme should vary with the severity and quantity of problems which health education can help to solve.

8 Gradation

The gradation of health instruction must be effectively related to the changing needs and interests of children at different ages. Planned progression is important in any subject which, like language or health, is taught year after year. There must be continuing emphasis on many health practices since it is sometimes more difficult to maintain a habit at an older age level than it was to establish it in the younger child. A fresh approach and new emphasis in each succeeding grade will prevent the necessary repetition from seriously reducing interest in the subject.

0.5 Steps in preparation of health education outlines

As indicated above, the scope and priorities of a programme of health education should be based upon the health problems of the area, the need and possibilities of behavioural change and the resources available. Public health authorities have information concerning mortality and morbidity. If educators and health workers are native to the area they may know a great deal about beliefs and practices which are related to health. Specific studies in what pupils or students already know and do about health may be desirable. Data upon the physical condition of school children and upon causes of absence from school are helpful. In any case an early step in planning for health education is a determination of the health and behavioural problems.

With such knowledge in hand the following basic procedures are involved in planning a suggested programme in health education to place in the hands of the teachers:

1 The determination of the specific habit, attitude and knowledge objectives sought in the health education of pupils and students before they leave school.
2 The determination of the specific learning experiences in health which the school seeks to provide. (See Appendix I as an example.)
3 The selection and preparation of such introductory, philosophical orientation and background material as may be thought useful to the teacher.

4 The selection of methods and procedures to be suggested.
5 The gradation of the health education programme.
6 The suggestion of such source materials as are thought to be helpful.
7 Where possible, the experimental use of the outline, in tentative form, before it is published for general use.

0.6 Programme-planning committees

Programme-planning committees vary both in size and personnel. All, of course, represent professional leadership, knowledge and skill in health and in education.

A high percentage of countries and states or provinces and some cities have 'Joint Committees on Health Education in Schools' or on 'School Health'. Committees at the national level differ in both title and composition. For example, the United Arab Republic has a High Joint Council of the Ministry of Health and the Ministry of Education and a Permanent Committee for Health Education. In Panama the National School Health Committee has representatives from Education, Health and Agriculture. Senegal has had a joint Health and Education Committee since 1962 to study means of developing health education in the primary school. The Union of Soviet Socialist Republics has a large Permanent Central Institute for Scientific Research in Health Education which serves as the 'scientific and technical adviser in health education' and which has a 'section for health education in schools and preschool establishments'. In addition a Joint Commission on Health and Education was formed in 1959 by the two ministries to review and revise the entire teaching programme in health.

In some countries representatives of professional groups or voluntary agencies are invited to sit on the committee. In the United States of America, in addition to interdepartmental government committees at the federal, state and local levels, there has been since 1924 a Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association.

The Health Education Council of Western Australia includes in its membership, in addition to the Education Department and the

Department of Public Health, the Australian Broadcasting Commission, the British Medical Association, the Country Women's Association, the Employers' Federation, the Federation of Parents and Citizens Associations, the Federation of Commercial Broadcasting Stations, the Local Government Association, the Perth Newspaper Proprietors' Association, the Road Boards' Association, the Australian Red Cross Society, the University of Western Australia and the Trades Hall of the Australian Labour Party. The Council is financed entirely from government funds and has a permanent staff of three persons.

In Queensland, Australia, the Department of Education and the Queensland Health Education Council are just now bringing out a three-volume *Health Education Manual for Teachers* for grades I through VII. In some countries, as in Chile and Ceylon, there is a relationship between the national Joint Committee and similar regional or local committees.

Many of these continuing committees are concerned with problems of administration and evaluation of the whole school health programme, of which health education is a part. In some countries or states such committees have undertaken the preparation of health education outlines directly. In other cases a special subcommittee (Curriculum Committee in Health Education) has been formed to undertake this task. It is the work of the committee which is planning for health education that we shall discuss, since we are not concerned, in this book, with the medical, public health or administrative techniques of the total school health programme.

Planning committees in highly organized school systems

Health education touches so many aspects of school and community life and involves so many activities in large and highly developed school-systems, that committees planning health education programmes for large cities have contained specialists from such varied fields as school administration, public health, medicine, dentistry, home visiting, educational psychology, school health services, environmental health, nutrition, physical education and curriculum construction.

We find, for example, central committees for planning health education under the chairmanship of a Director of Education with

a typical membership including such persons as a public health administrator, an elementary school principal, a secondary school principal, the health education specialist of the health department, a school physician, a school nurse, a dentist, the director of physical education, a teacher of biology, a nutritionist in charge of home economics and a psychologist in charge of curriculum development. An expert in school health education has sometimes been available to serve as a consultant to the committee.

In such cases the central committee usually has the responsibility for policy and overall plans. It agrees upon definitions and objectives, the habits and attitudes which the school should seek to develop, and the knowledge to be presented. It assembles a list of teaching methods, possible procedures, and source materials.

The gradation of health instruction and the development of suggested teaching procedures is carried out for the central committee by a series of grade committees. Beginning with the lowest grade, a small committee of selected teachers examines the materials assembled by the central committee for the whole school system and decides what they can teach to their children. They list the health habits to be emphasized, the natural interests of children, useful incentives to habit formation, then select class activities and source materials.

Following the completion of the work of each grade committee, a similar committee for the next grade examines what had been proposed at the earlier level and suggests a programme for their children. These programmes, suggested for the various grades are sent to the central committee, which adds the necessary items related to administration and the coordination of departments.

There has been no fixed pattern in committee organization in preparing the programmes and teacher guides now extant. Local conditions, needs, relationships and available personnel appear to have determined committee composition and procedure.

Planning committees in rural primary schools

In contrast with such large committees, we find, for example, many smaller committees planning programmes for the primary schools of a region or the ungraded schools of a rural area where school health services are absent. Such committees have been made up of

teachers at the different grade levels with one or two representatives from public health or medicine and a school administrator, sometimes with the addition of a parent or community leader. The assistance of the national or state director of health education has been available to such committees in some instances.

Teacher participation in programme planning

The participation of teachers in planning the health education programme is of the highest importance whether they serve on small committees for the respective grades, as mentioned in the large committee operation described above, or whether they are members of a smaller planning committee of the type just mentioned. Their experience with the respective grades gives them excellent judgment as to what can be undertaken and what methods should be used at the level of growth and development with which they are working.

0.7 Outlines in health education

Three types of health education outlines or curricula have been sent to us from Member States:

1 National, state or provincial outlines, issued under some such title as 'Outline of Health Instruction', 'Teacher Guide for Health Education', 'Handbook for Health Education', 'Basic Plan for Health Education', or 'Health Education Outline'.

These are usually printed, either with a booklet for each grade or with outlines for three or more grades in a single book. Some countries have printed teacher guides for each grade covering all subjects, including health.

2 Local outlines for primary or secondary schools produced by individual school systems under titles similar to those mentioned above.

Most of these outlines are mimeographed rather than printed. Usually they are separate outlines for grades I to VI and grades VII to XII. In a few cities outlines have been prepared for each grade or for kindergarten to grade III, for grades IV to VI, for grades VII to IX, and for grades X to XII.

Comparing these outlines, which differ widely in form, it is clear that the organization, clarity of language, page arrangement, and quality of reproduction are of great importance. They determine the ease with which the teacher can find the material he is seeking and the facility with which he can grasp the suggestions presented.

3 Programmes for teacher training institutions. Only a few states or countries have published suggested programmes of health education for these institutions. Some have published lists of required courses. Detailed plans for student health and health education are made by many individual normal schools, colleges or universities and are reflected in their respective catalogues. Several national and international conferences have considered teacher preparation for health education.

0.8 Other publications in school health

In addition to guides for the teacher in the conduct of his health education programme there are other helpful source materials such as 'First-aid Manuals', 'Regulations for the Control of Communicable Disease', and 'Standards for the Construction of School Buildings'. Several colleagues in developing countries have expressed the need for more source material such as textbooks in hygiene; pamphlets on specific diseases, nutrition, sanitation, infant care, safety and other health problems; and books on school health education prepared especially for teachers.

From several of the highly developed countries we have received a variety of pamphlets, on some of the topics just mentioned, and upon the common cold, tuberculosis, cancer, diabetes, malaria, heart disease, alcoholism, drug addiction, planned parenthood, mental health, safety education, first aid, ventilation, body mechanics, camping, exercise, and recreation. These were produced by Ministries of Health, by Ministries of Education or by voluntary health organizations.

There are an increasing number of centres in many parts of the world for the development of visual teaching aids. National health authorities and education authorities are cooperating increasingly with these centres in securing teaching materials in hygiene.

Criteria for preparing or selecting textbooks

Some curriculum committees may be confronted with the necessity of planning, preparing or evaluating and selecting health textbooks for the different grade levels. The following criteria have been suggested in one country and may be of use to such committees in establishing their own standards:

1 The underlying philosophy

The source material selected should be based upon an educational philosophy that:

a. Recognizes health as related to all phases of human life, physical, mental, emotional, and social.

b. Considers health education as an integral part of a programme of general education that seeks to improve the quality of daily living, not merely to prepare for adult life, to store information, or to provide mental discipline.

c. Acknowledges health as a means of enriching life, not as an end in itself.

d. Takes the positive rather than the negative attitude toward health in the presentation of material. (For example, the first approach to the subject of bacteria may well be that of biology or nature study, not that of pathology.)

e. Recognizes that many pupil experiences outside class instruction, such as those in connection with health services and physical education, have an effect upon the health habits, attitudes, and knowledge of the child.

f. Recognizes that appropriate behaviour is the primary objective, since health attitudes and knowledge improve health only through their effect on behaviour.

2 Adaptation to age and grade level

Materials should be adapted to the age, development, and interest of the group for which they are intended by:

a. Suitability of vocabulary and ideas.

b. Recognition of the changing needs of children.

c. Recognition of the broadening responsibilities of children.

d. Recognition of the child's gradually enlarging community.

e. The development of a fresh approach and new topics in each grade in addition to the necessary repetition.

3 The development of self-guidance

Provision for learning experiences through lesson plans that:

a. Stimulate thought.

b. Contribute to the formation of attitudes of personal responsibility.

c. Develop ideas and activities that contribute to the solution of actual problems.

4 The informational material

The items of information presented should:

a. Reflect present-day knowledge with scientific accuracy.

b. Be presented in a psychologically sound manner.

c. Cover adequately the various phases of health subject matter.

5 The skill used in the preparation of the material

Elements of special value in the preparation of materials include:

a. Actual classroom experimentation.

b. A study or knowledge of the health needs and interests of children.

c. The professional education and the health experience of the writer or team of writers.

6 Adaptation to teachers' needs

Consideration for the needs and problems of the teacher should be provided through:

a. Respect for teacher judgment and initiative in the way material is presented.

b. The suggestion of many possible procedures and activities.

c. The suggestion of procedures for measuring accomplishment where possible.

7 General style and make-up

The literary and mechanical features of the material should be of good quality, in that:

a. Correct and readable language is used.

b. The book-making is satisfactory with respect to durability, quality of paper, and size and legibility of type.

c. The illustrations are of good quality and positive teaching value, not negative or gruesome. (It should be recognized that some illustrations are used for their motivating force in showing that certain procedures are pleasant or desirable, while other illustrations are informational in nature and demand careful study.)

0.9 Evaluation

Some groups which are planning programmes of health education may wish to take action in the important field of evaluation, either by suggesting such activities in the curriculum which is being planned, by initiating or extending research in that field, or by preparing appraisal forms for surveys in school health.

Teachers constantly check the extent and clarity of the knowledge pupils have acquired from specific lessons or units of instruction. They observe the health attitudes and behaviour of individual pupils. Misunderstandings are corrected and inadequate information is extended. Improved attitudes and behaviour are encouraged.

Broader and more objective studies are frequently desired to observe achievement in health education and to discover strengths and weaknesses in the programme by the use of standardized testing methods with larger numbers of pupils at selected grade levels. Standard or carefully prepared tests of health knowledge (usually multiple choice questions) are administered under standard conditions. Standard 'yes or no' health-attitude questions and health-behaviour questions are answered, unsigned, by pupils. Health-behaviour questionnaires to parents have also been used successfully. Behaviour is checked directly as in determining how many children meet accepted standards in such matters as posture or hand-washing under fixed conditions of observation. The values and limitations of the data collected are well understood by experts in educational measurement.

Some appraisal forms have been prepared for checking the extent and quality of the total school health programme. These are comparable in nature to appraisal forms which have been widely used in surveying the public health programme of a city, county, province or state. Such a checklist for examining the extent and quality of the health education programme can be made from the standards set by the individual country in relation to such items as those listed in the following chapters.[1]

1. It is not possible to discuss in detail here the techniques and instruments of evaluation. One of the best examples of such evaluation by a large school system is (School Publication No. 673, 1962, Los Angeles, California, USA.) This report of 257 pages covers a study of healthful school environment, health services, teacher health, health instruction, and health coordination, for elementary schools, junior high schools, senior high schools, and junior colleges. *Evaluation of the Health Programme in the Los Angeles City Schools, 1954–61.*

Valuable as evaluation is, we should remember that everything in life which has value is not measurable in terms of numerical or metric units. Many values arising from the school health programme cannot be measured quantitatively. It might well be maintained that such programmes contribute so much to the health of the future adult that they are worth while on that basis alone.

The teacher, the physician and the parent can often see an improvement in the mental and physical health of the child which cannot be recorded on an objective health index. School health education also makes a contribution to the education and health of the community at large. This cannot, of course, be measured in terms of the programme itself. Attitudes are difficult to measure, and yet the contribution of the school to the development of sound health attitudes is one of its most important services. Health education makes many more contributions to vigour, efficiency, contentment, cheerfulness, community health, and race betterment than we could ever hope to measure.

1. Orientation and background material

CURRICULUM COMMITTEES have usually felt that teachers and school health personnel are helped if actual teaching suggestions are preceded by suitable background material for the purpose of orienting the staff in relation to the philosophy, objectives and scope of the programme. It is hoped that the following pages which present ideas contained in various health education outlines and suggested by educators and public health workers may be useful in preparing future curricula. Topics discussed are:

Definitions
Objectives
Scope of health education
Considerations of growth and development
Principles underlying health education
Methods of teaching health
Source materials
Relationships.

1.1 Definitions

What definitions, if any, do you wish to include in the health education guide? There follow some statements defining terms commonly used in outlines prepared for teachers. You may wish to rephrase certain definitions.

The definition of *health* proposed by the World Health Organization, as 'a state of complete physical, mental and social well-being, not merely the absence of disease or infirmity', has become widely known. Health is sometimes defined as that complete fitness of body, soundness of mind, and wholesomeness of emotions which make possible the highest quality of effective living and of service to the family and to society. The concept is sometimes reinforced by using the term 'positive health', or by suggesting that there are different degrees of wellness, just as there are different degrees of illness.

It is generally recognized that the *health education* of the individual is the sum total of all his experiences which contribute to the development of desirable habits, attitudes and knowledge related to individual, family and community health. It helps him to help himself to better health, through gaining a desire for health, becoming aware of personal, family, occupational and community health problems, acquiring essential knowledge and, with appropriate use of consultation and community resources, taking needed action. The objective of health education is the translation of what is known about the maintenance and promotion of personal and community health into patterns of desirable behaviour.

The term *school health education* refers to those learning experiences in health which take place in school or through the efforts of school personnel. It provides and utilizes a variety of experiences for the purpose of improving attitudes, knowledge and practices relating to health. It brings the child gradually to realize the importance of health and to act intelligently in conformity with this awareness.

The term *adult health education* is sometimes employed to indicate health education programmes outside the schools.

Public health is the science and art of preventing disease, prolonging life, and promoting health and efficiency, through organized community effort.

Hygiene is the science of preserving and promoting health.

Sanitation refers to the establishment of environmental conditions favourable to health.

Preventive medicine is the science and art of preventing disease, prolonging life, and promoting physical and mental health and efficiency. It includes hygiene, public health, preventive and social medicine with emphasis on the individual more than the approach through organized community efforts which are applied in public health.

The *school health programme* includes all of the activities carried on in a school system in the interest of health.

Health instruction is the presentation of information in the field of health.

Learning experiences are happenings (planned or unplanned) in the life of the individual from which he learns.

The term *primary school*, as used here, refers to a school serving

pupils who are in general under the age of twelve years. It comprises grade I (which may or may not follow a year of kindergarten) through grade VI. In some countries the term 'elementary school' is used for the first six or eight grades. The first three grades are sometimes spoken of as the primary grades and grades IV, V, and VI are spoken of as the intermediate grades. In this book, any of the first six grades are referred to as part of primary education.

The term *secondary school*, as used here, refers to a school serving pupils of the approximate ages of eleven to seventeen who are in their seventh to twelfth year of formal education. In some countries the term *high school* is also used for these grades. Grades VII, VIII and IX are spoken of as junior high school and grades X, XI and XII as senior high school. In some countries the term *middle school* is used for a school serving grades VII, VIII and IX.

A *university* is an institution of higher education which has the privilege of granting degrees. Its level of instruction is above that of the secondary school.

A *teacher training institution* is any institution devoted to the preparation of either primary school teachers or secondary school teachers, whether its students are at the secondary school level or at the university level.

A *centre of interest* is a unit of activity based upon the interests of the children. It is comparable to the word 'project' used in discussing the project method of teaching.

The term *long teaching unit* is sometimes used in referring to the study of a life situation or centre of interest, which continues over several days or a few weeks and provides educative experiences in more than one field of learning, especially in the tool subjects.

A *health education outline* or *teacher guide in health education* or *health education curriculum*, or *health education manual* is a planned programme of health education prepared primarily for teachers and indicating objectives, subject matter, methods and procedures.

The word *curriculum* is given two different meanings in educational literature. Some writers use the term to mean a course of study which describes or outlines the subject matter to be taught to pupils. Others use the word to cover all experiences, both in class and out of class, which promote learning and which are under

the guidance or influence of the school. It is the latter broad and more functional usage which we shall follow in this book.

There are many kinds of groups or committees which plan programmes of health education in schools. The titles of such groups are many and varied. Adopting the broader and more functional definition of curriculum mentioned above, we shall use the term *curriculum committee* in this book to refer to any national, state, or local group or committee which is planning a school health education programme in whole or in part.

1.2 Objectives

Statements regarding the *objectives of the total school health programme* indicate that it seeks to bring each child up to his optimum level of health, through:

Providing healthful school living.

Protecting children against communicable and other preventable diseases.

Discovering physical defects and other abnormalities in the child and promoting their correction, if they are remediable.

Developing the knowledge and attitudes which will enable the individual to make intelligent health decisions.

Promoting desirable health habits.

Developing school, home and community cooperation in health promotion.

The general *objective of health education*, as implied in the definition of the term given above, is to help the individual maintain and improve his own health and take appropriate responsibility in protecting the health of others. Statements on specific health education objectives commonly refer separately to attitudes and appreciations; to habits, skills and abilities; and to health knowledge. For example, the objectives of health education with reference to food and nutrition suggested by an informal Joint FAO/Unesco/WHO Working Group,[1] are:

1. to acquire simple but accurate knowledge about food and health;
2. to reject false and harmful beliefs about food;

1. *Report*, ED/213, Unesco, 1965.

3. to accept food habits compatible with normal growth and good health;
4. to acquire competence in the understanding and skills required to select and obtain an adequate diet for different age groups and degrees of activity, from locally available foods; and
5. to acquire knowledge and practice of modern food production techniques appropriate to the locality.

In general terms, objectives suggest that school health education seeks to develop:

a. Attitudes and appreciations, which provide willing compliance with health regulations; the desire for optimum health; satisfaction in carrying out health practices; willingness to assume proper responsibility in the field of health; recognition that health is a means of enriching life and that health practices bring rewards in growth and achievement.

b. Sound health practices with reference to hygienic regimen, good emotional adjustment, nutrition, a healthful and recreative programme of activity, the wise use of medical and allied services, proper steps in avoiding disease and infection, and suitable participation in activities for the maintenance and improvement of community health.

c. A basic *knowledge* of bodily functions, mental health and psychosomatic relationships, important health hazards, the maintenance of personal, family and community health, and the nature of public health services.

1.3 Scope of health education

Do you wish the introductory portion of the outline to carry a statement regarding the scope of health education or the major situations in which learning experiences in health take place?

We have listed (0.1) the four situations most commonly mentioned as providing or influencing learning experiences in health. Some outlines describe them as:

1. Healthful school living, or the provision of a safe and healthful environment, the organization of a healthful school day, and the establishment of healthful interpersonal relationships.

2. School health services, in which we find such established

procedures as the appraisal of the health status of pupils and school personnel; the counselling of pupils, parents and others concerning health problems; encouragement in the correction of remedial defects; assistance in the identification and education of handicapped children; the prevention and control of communicable disease; and the provision of emergency services for injury or sudden illness.

3. *Health instruction*, or the teaching of health or hygiene as a separate subject or through correlation or integration.

4. *School, home and community relationships*, including various parent contacts with the school; cooperative relationships between school health education and adult health education in the community; pupil or student participation in sports, health clubs or other health related activities outside the school; and the development of cooperative school and community organizations, such as school health councils.

1.4 Considerations of growth and development

Do you wish to include any statement of developmental status and health needs at different ages?

Some health education outlines carry growth and development facts in the interest of helping teachers to a deeper understanding of the children with whom they are working. Such statements are in the nature of reminders to teachers who have had extensive instruction in teacher training institutions and to teachers of long experience who have become familiar with the physical, mental and social traits of a particular age group. Such reminders, however, may be helpful, especially since a consideration of the pupils' health needs at a particular age may suggest possibilities for health education. For teachers with less training and less experience with the group with which they are now working, growth and development facts may be especially useful.

Health education outlines which do include such statements invariably carry warnings against the misuse of the data. The teacher knows that physical, mental and social traits develop in general in a definite sequence; but he must also remember that the

rapidity of development and the timing of specific changes vary with individual children, especially at the older age levels. General statements may be useful; but exact timing of growth status is impossible. Each child matures in his own way and at his own individual rate of speed. Firsthand observations of the individual child are most important. There are also differences in the rate of development in different latitudes and in different ethnic groups, as well as in individual children.

If your committee decides to include data on growth and development in the health education outlines you are producing, the question arises as to what form these data should take. You may wish to list physical characteristics alone. In many outlines physical, mental and social traits are all listed, together with suggested educational needs. If you use such a statement, you may wish to prepare a chart indicating traits year by year at different age levels, or to describe development for a group of ages such as ages 5 and 6, ages 6, 7 and 8, or ages 12, 13 and 14. Some outlines have indicated that they prefer to discuss a group of ages together because of the difficulty in pin-pointing a particular trait to a single one-year age level.

It is impossible here to do more than give an example of one statement. *A chart of growth and development for any country must be based upon experience or research within its own area, or within areas extremely like it in every respect.* Some countries have had such research and possess extensive literature on this subject; others are still lacking extensive investigations in this field.

It does not matter from what country we select the example to be given here since it would be useful only in that country. The following data for North American children 6, 7 and 8 years of age reflect general agreement in the literature covering the children in question. The data may be interesting to your committee as illustrating the kind of statement which may be prepared.

SOME TRAITS OF NORTH AMERICAN CHILDREN, AGES 6, 7, AND 8

Physical traits

Physical growth is slow and steady. Front teeth are likely to be missing at the beginning of this period; deciduous teeth are being

replaced; and interest in the teeth is increasing. The eyes have not reached adult size and many six-year-olds are likely to be far sighted. Sleep requirements are about eleven hours for six-year-olds and ten hours for eight-year-olds. Fatigue is common and the youngster may not recognize it. Daytime rest is helpful. Posture is likely to be poor, especially in tall children. Movement tends to involve the whole body. Children are clumsy with their hands but enjoy pasting, cutting, drawing, painting and handling simple tools. Childhood diseases and infections are prevalent at age six and gradually become less common. The child is interested in growing and in changes in height and weight.

Mental traits

Children are interested in specific information, not generalizations. They like riddles and slapstick jokes. Reading readiness appears during this period. Dramatic play and make-believe, comic books and animal stories are enjoyed. Questions about sex are frequent. The children love pets. They like to produce well-made objects. This is sometimes called the 'eraser' age.

Social traits

Being fair becomes important. Children are more self-centred than group-centred. They want to feel that they have done right, and wrongdoing leaves them worried and unhappy. The sense of responsibility is growing. They enjoy simple tasks within their capacities. Praise is important to them. Gradually they begin to accept blame and apologize. Cleanliness is not important to them.

Needs

Activities for large muscles. Practice in improving posture. Guidance in establishing handedness. Vigorous games and outdoor play, with running and climbing. Dramatic play. Emphasis upon creativity. Learning to improve habits of cleanliness. Short work periods, with ample time for any tasks. Opportunity to develop leadership through a variety of social situations. Opportunity to agree or disagree in a desirable manner. Expanding opportunities for oral self-expression. Understanding and friendship on the part of the teacher. Regular meals. Good eating habits. Some children may need to learn to like new foods.

The following example of a year-by-year chart of child growth and development is from *Health in the Elementary Schools* (Pub-

lication No. EC-201) and is used here with the permission of the Los Angeles City Schools. Teachers who are given the chart are reminded that 'no child fits completely into any one age level', and that 'the general pattern of growth is the same for all children; but each child matures in his own way at his individual rate of speed'. It is pointed out 'that this chart is an aid in determining the level of maturity of children; but [that] firsthand observations should be objectively made and carefully analysed'. The Los Angeles chart for primary schools includes data for each year between ages 5 and 11. The following pages are quoted from it and show data for North American children, ages 9, 10 and 11:

SOME TRAITS OF NORTH AMERICAN CHILDREN, AGES 9, 10, AND 11

AGE NINE YEARS (Grade Four)

PHYSICAL TRAITS

Continues to have general good health.

Is constantly active. Works and plays to the peak of his capacity. Becomes overstimulated easily and has difficulty in slowing down.

Exhibits increased skill in the use of fine muscles; continues to need activities to develop large muscles. Evidences proficiency in use of tools through detail of finished product. Displays increased skill in motor coordination. Enjoys exhibiting motor skills. Finds it difficult to keep from twisting and turning in seat because of muscular growth. Shows increase in eye-hand coordination over that ability at eight.

Exhibits ability to adjust eyes for both near and far vision without undue strain. Shows signs of dental defects. Displays even rate of growth in height and increase in weight.

MENTAL TRAITS

Demonstrates the fact that interests deepen rather than broaden.

Likes to make plans and look ahead. Is increasing in ability to budget time.

Is interested in the mechanics of things; what things are made of and how they operate. Tends to be more exacting in collecting, identifying, and classifying objects.

Is able to do some independent critical thinking.

Has made definite growth in ability to think and to speak. Shows increased ability to use reference materials.

SOCIAL EMOTIONAL TRAITS	Plays and works well with others. Is becoming aware of responsibility to others.
	Participates in a gang or an informal club. Exhibits increased ability to evaluate self and others.
	Prefers reasonable appraisal of work rather than praise, though he almost always welcomes praise. Works to perfect his skills in tool subjects. Seems very devoted to teacher. Forms 'special' friends; chooses a member of own sex for 'special friend'.
	Exhibits independence when away from family. Is aware of family standards and recognizes differences between standards of family and friends.
NEEDS	A balanced program of active and quiet activities. Opportunities to learn and practice good health habits.
	Opportunities for creative expression. Practice in planning and organizing activities.
	Opportunities to learn and use social skills. Opportunities to assume responsibilities and leadership. Acceptance by his group. Guidance to direct his interest in gangs and clubs toward socially acceptable goals.
	Guidance in identifying and classifying objects. Opportunities to exhibit collections.

AGE TEN YEARS (Grade Five)

PHYSICAL TRAITS	Is more subject to minor illnesses than at nine.
	Is in need of vigorous physical activities to strengthen muscles.
	Has good control of large and small muscles. Exhibits a wide range of ability in skills in physical activities. Displays a definite increase in manual strength. Shows a refinement of control and use of muscles. Has almost adult ability in eye-hand coordination.
	Has almost adult development of eye muscles. Exhibits uneven growth of different parts of the body.
MENTAL TRAITS	Increases in ability to give attention to subjects of interest for longer periods of time.
	Increases in ability to generalize and think critically. Is interested in exploring and experimenting. Exhibits ability to budget time and energy.
	Shows interest in arts and crafts; in some, special talents are becoming apparent. Is reaching a top level of interest in reading.
	Is able to make advanced plans. Retains ideas to a greater degree than at nine.

SOCIAL EMOTIONAL TRAITS

Enjoys matching skills with others. Loves competition. Desires status in a group and wants to be independent.

Is showing increased interest in the gang or club. Is constantly seeking friendship of those of his own age and adults.

Seeks approval of those around him; seeks to impress them. Tends to resist change that is imposed. Is ready to assume increased responsibility. May show antagonism toward opposite sex. Is becoming more self-conscious.

Is very satisfied with family and family is very pleased with him. Shows increased independence when away from family group.

NEEDS

Protection against the danger of becoming over fatigued in competitive activities.

A balanced variety of activities. Access to a wealth of reading materials. Introduction to the biographies of living and historical personalities. Guidance in problem solving and critical thinking.

Encouragement to participate in free discussion. Opportunities to assume responsibilities and leadership.

Experiences which foster a sense of success and achievement. An emotional climate which encourages the discussion of personal problems.

AGE ELEVEN YEARS (Grade Six)

PHYSICAL TRAITS

Is overanxious about health.

Tends to be physically active. Likes strenuous activities. Is lacking in judgment in controlling activities in order to prevent over fatigue.

Shows increased proficiency in physical skills. Is developing the use of accessory muscles to a high degree. Has attained adult level of eye-hand coordination.

Functions of the eye are well established. Continues to exhibit uneven growth of different parts of the body.

MENTAL TRAITS

Exhibits interest in books about adventure, science, nature, and home life.

Is developing a concept of time nearly equal to that of an adult.

Is able to work with a group on extended projects which require cooperation and pooled thinking. Is growing in ability to organize materials effectively. Is growing in ability to generalize, to see relationships, and to estimate probable results in solving problems. Is able

	to work with abstractions with fewer concrete illustrations.
	Is developing a keen sense of associative memory.
	Discusses current affairs with understanding.
SOCIAL EMOTIONAL TRAITS	Is interested in the group itself. Is developing a feeling of team spirit.
	Shows strong interest in social activities. Is establishing status within his sex group. Is keenly interested in competition.
	Believes in established justice or fair play. Is developing a sense of ethics. Recognizes the authority of superiors and the leadership of his peers. Feels insecure or frustrated as a result of longing for as well as rejecting independence.
	Wants and expects help from parents but does not want to be told what to do.
NEEDS	Daily physical activity and rest. Activities involving co-operative or team play and that give individual satisfaction.
	Extended periods of time to complete group projects. A wealth of supplementary books to satisfy his reading interests. Opportunities to use research techniques to locate information. Learning situations which provide opportunities for drawing conclusions and making generalizations.
	Guidance in setting personal goals and evaluating his growth and achievement. Opportunities to assume increased leadership and responsibilities in class and club activities.
	Understanding from adults because of the emotional changes he experiences. Opportunities to make decisions and be independent. Opportunities to discuss social and personal problems.

1.5 Principles underlying health education

The following are some principles which have been suggested for teachers to bear in mind in carrying forward their work in health education.

The ultimate objective of health education is the promotion of healthful living

Because the health of the child is influenced primarily by what he does, not by what he knows, health education should be behaviour-

centred. The pupil should think of hygiene as associated with conduct and not as a series of facts to be memorized. Motivation is an important part of health education. It bridges the gap between knowledge and action. It is necessary to develop many health practices before the child is old enough to understand the scientific basis upon which they rest. Healthful living is developed as soon as possible and gradually supporting knowledge is built under this health behaviour. The teacher helps his pupils to see that the reward of health practices will appear in growth, in improved physical accomplishment and in other concrete evidences of health.

Appropriate incentives for healthful living are used at the respective age levels

The desire to grow is one such incentive at the primary school level. Reasonably consistent growth is an evidence of health. Cessation of growth in the infant or child is an indication that something is wrong. The agriculturalist uses growth as an index of health and begins to look for the reason when either young plants or animals stop growing. Children want to grow. Their habits of living influence growth. Where regular weighing and measuring are possible, children watch their growth and the desire to grow becomes a reason for following a hygienic pattern of living.

In different degrees and at different ages other motivations rest upon the child's desire:

to do grown-up things;
to be helpful at home and at school;
to be socially acceptable;
to conform to accepted procedures;
to earn recognition for worthwhile accomplishments;
to imitate those whom he admires;
to look attractive;
to do well in studies;
to perform creditably and successfully on the playing field;
to acquire a variety of skills;
to win in competition between groups, or with another individual, or with his own record;
to be a worthy citizen.

These various incentives all reflect in different forms the basic human desire for a feeling of personal worth.

Health education is directed toward the health problems of the child

The well-prepared teacher knows what health problems and needs are characteristic of children or youth at the age level with which he is working. By knowing the individual child, by observing his behaviour, by questions and discussions, through conferences with his parents, through analysing his scholastic attendance and health records, through talks with the school nurse or physician if there are such persons, through watching the growth of the child, through analysing the results of hearing and vision tests, and through learning the child's interests, attitudes, and out-of-school activities, the teacher discovers the health needs of individual pupils. The teacher observes the child's habits, his present understandings in health and safety, misconceptions which he may possess, and family attitudes which he may reflect.

Health practices of the teacher are important in influencing the health behaviour of pupils

Conscious and unconscious imitation of persons whom they admire is an important force in shaping child behaviour.

Health education should in so far as possible be positive, not negative

Emphasis is placed upon what to do, rather than upon what not to do. Unhappy mental states are avoided. Care is taken not to hold the child responsible for the improvement of conditions over which he has no control. The child receives recognition for achievements in healthful living. His successes rather than his failures are emphasized.

Health instruction gains strength when it is related to the natural interests of pupils or students

The teacher knows not only the health needs and developmental status of his pupils, but also whether at that particular age they are interested, for example, in babies, animals, collecting things, cooking, dramatization, drawing and poster making, games, keeping a diary, motion pictures, music, parties, radio, saving or thrift, school newspaper, exploration, clubs, or debates. Health instruction is related to such interests.

1.6 Methods of teaching health

What teaching procedures do you wish to suggest in the health education outline?

You may be planning to suggest a rather detailed programme of health instruction which in itself will make use of those teaching procedures which you prefer. On the other hand, if your outline is limited more to a statement of objectives you may like to lay before the teacher a brief discussion of different teaching methods from which he will select.

Commonly used methods include:

INCIDENTAL TEACHING

All primary schools and, to a lesser extent, secondary schools find opportunities for effective health instruction at 'teachable moments' when health teaching is inherent in a classroom situation. The incidental teaching may be a quiet word with an individual pupil or it may involve the whole class. The following are examples of situations or topics which lend themselves to incidental teaching:

the presence of a communicable disease;
habits of personal cleanliness;
getting to school safely;
the school garden;
the school lunch;
attractive personal appearance;
housekeeping in the classroom;
the arrival of a baby brother or sister in the family of one of the pupils;
something related to health which happens in the community.

THE USE OF A TEXTBOOK

Some schools have no textbook; other schools have a textbook for each grade. Where textbooks are available they should be used in support of a constructive health education programme, not merely as a source from which facts are to be memorized.

In addition to interesting and accurate information available to the whole class at the language level of the pupils, most modern textbooks present suggested approaches, activities, questions,

exercises, drawings, pictures, diagrams, summaries and reviews. Textbooks are often accompanied by a teacher's manual of further suggestions. Such a textbook is perhaps the best single resource for the pupil when used as a reference book in connection with a dynamic, behaviour-centred, problem-related programme of instruction.

CLASS DISCUSSION

Class discussion stimulates thinking and provides for individual expression. Ideas are pooled. Concepts are broadened. Understanding is facilitated. The discussion is usually in the hands of the teacher, who makes certain that it is clear, constructive, thought-provoking and adapted to the age and grade level. He makes sure that the discussion, although free, leads toward sound conclusions and is not a series of hit-or-miss questions for 'yes' or 'no' answers.

In developing class discussions, the teacher:

encourages all children to participate;

treats pupil contributions and opinions with respect;

insists on courteous forms of speech;

makes sure that misconceptions are corrected;

helps pupils to distinguish between fact and opinion;

assists the child, by means of skilful questioning, to make a vague contribution more meaningful;

organizes the discussion in such a way that pupils keep to the point, avoid needless repetition, listen attentively and speak clearly;

keeps a record of important points on the chalkboard when this seems helpful.

USE OF DIRECT EXPERIENCES

The teacher seeks to obtain the educational values from those health-related experiences which the child has at school, such as immunization, play or sports, the school lunch, accidents, or the taking of safety precautions. He also builds actual participation into the health programme wherever possible. Older primary school children weigh themselves. Actual experience in food selection takes place in the lunchroom. The health needs of animals are sometimes learned through keeping pets at school.

Wherever actual experience can be substituted for cold facts or theory, learning becomes more alive and more thorough.

INDIVIDUAL GUIDANCE

Every teacher knows that some of his most constructive contributions to the health of his pupils come in individual relationships, rather than through group procedures. A private word of commendation to the child who has improved personal cleanliness stimulates further effort. The teacher who helps the child with an emotional problem builds mental health. Older pupils come to the teacher with more complex health problems.

Guidance has been called organized and scientific friendliness, contributing to the adjustment and direction of the individual. It is helping the pupil to see the facts of a situation, to weigh the pros and cons and act for himself. It is not telling him what to do.

In his guidance relationship to the pupil or student, the teacher:
gives due consideration to family status and viewpoint;
shows the respect and consideration for the child which will win his confidence;
analyses the pupil's personal health problems in an objective manner; and
helps the child to understand his health problems, to face up to them, to accept responsibility for self-direction and to take needed action.

FIELD TRIPS

Field trips are valuable in extending the child's learning experience into the community. Such trips may include visits to such places as farms, stores, a food market, or a zoo, for young children, and visits to factories, hospitals, clinics, water purification plants and public health laboratories, for older pupils.

Careful and adequate planning is needed if field visits are to be effective learning experiences. Each visit needs to be related to classroom activities through advance discussion of what is to be seen and what information the pupils may expect to secure. The teacher should be familiar with the place to be visited and appropriate arrangements need to be made with respect to parental permission, transportation, expense and supervision. In the case

of younger children parents sometimes help to conduct the trip. Care is taken that children stay together. What has been learned is clarified and summarized after the visits, through discussion, writing or other activity. Proper letters of thanks are sent to those people who made the trip possible.

DRAMATIC PLAY, DRAMATIZATION, OR ROLE-PLAYING

Dramatic play is a natural avenue of expression for young children. At older ages dramatization is a means of orienting instincts and impulses and clarifying social situations. It helps to develop poise, self-reliance, self-confidence, cooperation and courtesy.

In the primary grades, children dramatize real situations—the visit of the doctor and nurse, keeping store, the buying of food and many other activities. In the upper grades, more complicated social situations can be presented by role-playing. Plays, pageants and puppet shows are other forms of dramatic presentation. Carefully developed and pre-tested health plays are available in some countries for use in the secondary school. Sociodrama may show how people behave and how they should behave.

DEMONSTRATIONS

Actual demonstrations of how something is done visualize, clarify and vitalize health facts. Such demonstrations range from hand washing, tooth brushing and body mechanics, to food preparation, artificial respiration and other first aid procedures.

THE TEACHING OF SKILLS

Many skills need to be acquired. Kindergarten children may need to acquire skill in washing their hands or putting on their coats. Secondary school students acquire skills in first aid, or in the development of safety practices in shop work.

The skill should be broken down into its various parts. Demonstration of the activity may be helpful before the pupil undertakes it. Practice is important in gaining facility. The demonstration of proficiency is worthy of recognition.

EXHIBITS

Exhibits may be simple, like those produced by young children, or they may be more elaborate and complicated. In some countries

health exhibits are available from government or voluntary agencies on loan to schools. Favourite subjects for exhibits are food and nutrition, dental health, first aid and safety. School exhibits are often put on display at a time when parents visit the school.

VISUAL RESOURCES

The nature and availability of visual materials varies widely. Visual and audio-visual materials can provide an effective substitute for firsthand experience. Their weakness appears when they are shown in the absence of adequate preparation and follow-up. Such materials are an integral part of teaching, not a substitute for it. When used properly, they help the student to perceive, interpret, organize and integrate what is being taught. Visual impressions are interesting, reasonably permanent, stimulating and clarifying. A student with a clear concept (as shown by a motion picture of the amoeba, for example) and in search of words to describe his knowledge, is in a much happier learning situation than the student who has memorized some scientific terms and is searching for a concept to which they may be attached.

A conference of experts on 'New Methods and Techniques in Education', meeting at Unesco in Paris, 12–20 March 1962, described four categories of visual media and teaching aids. The first group of media consists of charts, maps, graphs, written materials, exhibits, models, chalkboards, demonstrations, dramatizations and the like.

Media of the second group are useful over broad areas and consist of textbooks, workbooks and tests.

The third group consists of photographs, slides, film strips, silent motion pictures, recordings on discs or tapes, radio, sound films and television. By distributing pictures and sound over wide areas it is possible to share demonstrations, dramatizations and great teachers.

The teaching aids of the fourth category represent man–machine communication and include language laboratories, teaching machines, programmed self-instruction and the teaching use of computers.

All curriculum committees will be alert to the possibilities of new and changing methods. Radio is already used, for both school and adult education, especially in Australia, Morocco, Sweden

and other countries with sparsely settled areas. We have received from Tanzania a 1961 magazine-type publication issued cooperatively with the Tanzania Broadcasting Corporation. On the front cover, the magazine of 32 pages says:

> To the pupil:—This is YOUR book, the first ever published for school broadcasting, to give you the notes and pictures for each lesson to look at yourselves. We hope they will help you to enjoy the broadcasts more and be useful for you to keep afterwards. Your radio teacher will tell you how to use the book, and your own teacher will answer your questions and mark any written work you may have to do after each lesson.

The publication contains lessons for the seventh and eighth standards on language, social science and basic science including lessons on the mosquito, food and diet, personal hygiene, parasites, hearing and sight.

LECTURES

The usefulness of lectures or formal health talks is limited. They have occasional use in the secondary school where a properly adapted presentation from an expert in some field of health comes to the students through a visiting speaker or through radio or television. When this resource is used adequate preparation and subsequent discussion are important. In the elementary school the nearest approach to a health talk is the explanation by the teacher of facts which are difficult to understand or the teacher's summary of facts which have been taught.

1.7 Suggestions regarding source materials

What suggestions do you wish to give teachers about source materials?

Several developing countries expressed the need for more pamphlets, charts, flannelgraphs, film strips and other teaching materials on communicable diseases, nutrition, child care and other health topics, adapted to pupil and student use. With younger children supplementary readers, if they are well made for teaching both reading and health, provide useful teaching material. Many countries are increasing the use by older pupils of biographies

which present the lives of health heroes such as Pasteur, Jenner and others.

Health education outlines refer to such sources of material as:

1. The State or National Director of Health Education, if such a person is employed.
2. Government departments including not only Ministries of Health and Ministries of Education but also Ministries of Agriculture and frequently (in safety references) Police and Fire Departments.
3. Voluntary health agencies.
4. Medical, dental and other professional societies which provide health education materials.
5. Public libraries.
6. Commercial or semi-commercial agencies.

A question of educational policy arises in the use of materials from business or commercial sources. These policies are to be determined by the school administration. Schools which do use these resources must guard against malicious and misleading advertising in the name of health. Many school systems feel that the promotion of any particular brand of goods should be avoided.

Large schools usually have a small professional library in health education for the use of teachers. In some school systems even relatively small schools have a book on personal and community health and a book on health education methods for teacher reference.

1.8 Relationships

What relationships, if any, between teachers and other school personnel and between health and other subjects of instruction do you wish to point out in the health education outline?

Some outlines point out important contributions to health education made by persons other than the classroom teacher in the primary school and the hygiene teacher in the secondary school. Such outlines also describe the ways in which, in addition to direct health correlations, many subjects beside hygiene contribute to health education.

Other persons contributing to health education

School administrators set general policies for the operation of the total school programme and for the employment of staff. Many of these policies affect the health of both pupils and teachers.

In large and highly developed school systems *school health personnel* (physicians, nurses, dentists and others) and even the *building maintenance personnel* carry out activities which contribute to the health experiences of pupils. It is helpful to teachers to know the kinds of services these persons render, what help the teacher can get from them, and what the teacher is expected to do for them.

The nature of any available health services from outside the schools (health departments, or health centres, for example) should also be known to school personnel.

The role in health education of parents and leaders of youth activities outside the schools is clearly recognized.

Other subjects which contribute to health education

As pointed out above, several subjects in themselves make major contributions to health, in addition to any planned correlation providing direct health instruction.

Physical education, especially, contributes to health through promoting the development of physically, emotionally, mentally and socially fit citizens. The activity programme builds physical strength, vitality and coordination; it also develops poise, sportsmanship and social competence. Emotional self-mastery, adjustment to others, satisfying self-expression, relaxation and confidence are among its direct contributions to the health of the student. In building interest and competence in wholesome recreation, it supplies a valuable facet in the later life of the child, youth or adult.

Music education teaches the proper use of the voice, good posture and correct breathing. Music also contributes importantly to mental health and the enrichment of life.

All types of *technical or work training* for both boys and girls teach proper work clothing, proper posture or body mechanics and work safety.

The *basic sciences* and the *social sciences* both build understandings which underlie health concepts.

2 Planning for health education in grades I to VI

THIS CHAPTER will raise, under the four major headings previously mentioned, the questions most likely to be considered by a curriculum committee which is preparing an outline for health education in some or all of the first six grades of school. It will indicate some of the kinds of answers which have been given in existing outlines or suggested for consideration in the comments which have come to us from Member States.

The question arose whether suggestions applicable to the various kinds of schools might be presented separately because of the differences between schools according to whether they are urban or rural, large or small, graded or multiple class or in a hot or a cold climate. Distinct curriculum suggestions for two widely different kinds of primary schools did seem practical and the respective phases of health education will be discussed separately for small rural schools in the tropics and for large, highly organized, urban schools in the temperate zone. It is realized that very different school situations occur in each of these two categories as well as outside of them, but further separation for different kinds of schools seemed more confusing than helpful. The consideration of these two sets of suggestions will, it is hoped, be useful to curriculum committees planning health education programmes for schools which are intermediate in size and degree of organization.

2.1 Healthful school living

What provision for educative experiences through healthful school living do you wish to suggest in the health education outline?

It is impossible to teach health effectively if the principles of hygiene are violated in the school life of the pupil. There is an old

maxim which says 'What you do speaks so loudly that I cannot hear what you say.'

The provision of healthful school living is in part the responsibility of the government, which provides the building, playground and physical facilities of the school together with such health services as are available. In part healthful school living is the responsibility of the teaching staff which conducts the educational programme. Pupil behaviour also militates for or against it.

We are concerned in health education that the pupil shall develop habits of hygienic living from living healthfully at school. In all schools, provision for healthful school living involves (*1*) a healthful environment, (*2*) school safety, (*3*) the organization of a healthful regimen and (*4*) healthful interpersonal relations.

Let us consider these topics first in relation to rural schools and then in relation to urban schools.

Healthful school living in small rural primary schools in the tropics

These schools vary in many ways. Some are quite new. Some have a single grade, others have more. Many are multiple-class schools. Some classrooms have walls, others have only a roof. Some are in arid areas, some in rainy regions. Nevertheless there are common problems of toilet facilities, safe drinking water, lighting, storage of books and material, insect control, hand washing, seating, school housekeeping, and school feeding.

To be sure, teaching methods in health are somewhat different in the graded and in the multiple-class schools; but these differences are less than in the tool subjects because the emphasis in health education is largely upon a problem-centred or action programme. Appendix II presents one example of such a programme in the form of a directive from the school administrator to individual schools, and in the form of health and science experiments in which the whole primary school took part.

SCHOOL SANITATION IN RURAL AREAS

What suggestions can be given for the maintenance of a standard of environmental sanitation which will contribute to health and to health education in rural schools of the tropics?

In each country the primary source of sanitary standards is the Sanitary Engineer or the Division of Environmental Health in the Ministry of Health. In some countries, specific standards are issued by the Ministry of Health and the Ministry of Education, concerning such items of school construction as the site, building construction, seats and desks, playground, water supply, the provision of toilets, and the disposal of waste. Four items of environmental sanitation are especially worthy of attention in health education outlines for rural tropical schools, namely the sanitary dispensing of safe drinking water, hand washing, the sanitary disposal of excreta, and the suitable disposal of garbage and other wastes. Some outlines have emphasized the importance of the detailed step-by-step teaching of first-year pupils in the use and care of toilets, drinking-water facilities and hand-washing facilities.

Many outlines describe how *safe water* is secured and how it is to be dispensed. Some schools, for example, provide boiled water. Each child has his own individual cup, either made by him from bamboo or brought from home. A bamboo container with attached snout or a metal bucket with a spigot at the bottom permits the distribution of water without the drinking cups being dipped into the large water container. Public health authorities can advise about the testing of drinking water.

Facilities are needed if the habit of *hand washing* after using the toilet and before eating is to be established. Some schools use a bamboo log with holes, each plugged with a stick which can be removed, allowing the water to flow. This water holder can be used by several children at once. It is placed over a bed of stones or gravel to prevent water from accumulating beneath it. A bucket with a spigot will serve one child at a time. Many relatively new schools are reported to have wash basins and soap.

Whether *excreta disposal* is by the bored-hole latrine, pit privy, receptacle privy or cesspool, it is important that the facilities be used in a sanitary manner. If sanitary privies are used, the breeding of flies must be avoided and the privy pits must be kept dry by the use of dry earth or by the separation of urine, as described in Appendix II, or by both procedures. If they are not kept dry, disagreeable odours will make the children unwilling to use them. Appendix II, which reports practices used in some parts of the Philippines, also describes moving the house which covers the

privy pit, the dilution of urine and its use as fertilizer. Whatever the method of excreta disposal, sanitary supervision is essential.

Appendix II also reflects the value and the learning experiences arising from the disposal of garbage, animal manures, leaves, grass cuttings and other organic waste in a *compost pit.*

Some outlines describe desirable practices and facilities in relation to the *school lunch.*

Comments from developing countries have pointed out that the programme of school sanitation is important because it is an example to the whole community. They have suggested that the promotion of environmental health throughout the village or district and the maintenance of sanitary conditions at school should go forward together. These comments pointed out also that different regions have sharply different problems due to variations in standards of living, methods of housing, practices of food preparation and preservation, or the presence of nomads as well as home dwellers.

SAFETY AT SCHOOL IN RURAL AREAS

What suggestions should be made for the avoidance of accidents in rural schools?

These will depend upon the kinds of accidents which take place at school or on the way to and from school. The school yard is fenced if it is next to a busy road. Safety rules are followed in games. If there is a school bus, rules for its safe operation may be advisable. Specific suggestions for safety practices and safety education must be developed within the country or district.

A HEALTHFUL SCHOOL DAY

What items need consideration in providing a healthful school day for rural pupils?

The school day is relatively informal in grades I and II and gradually becomes more fixed in organization in the higher grades. Topics upon which your outline may offer suggestions include the following:

1. *The hours and length of the school day.*
2. *The sequence of the different activities and subjects.*
3. *Exercise and activity including physical education, play, games and school housekeeping.*

Planned programmes in games and physical activity are commonly proposed in physical education. Some countries have reported plans for pupils to mow the grass in the yard and keep the school building and yard neat and clean. In one case groups of pupils man a pump which pumps water from the well to a tank on the roof.

4. Daily morning health review.

Schools seek to establish and strengthen habits and standards of personal cleanliness in the lower primary grades, and it is common to give attention to personal cleanliness at the beginning of the school day.

One country with many new rural schools says most of its schools conduct daily inspections to ensure cleanliness of body and clothing and to make sure that pupils have their bath every morning. This brief attention to individual pupils also alerts the teacher to any child who is ill with a communicable or other disease.

The procedures adopted by teachers vary. In some cases pupil observation is quite informal and the children are unaware of it except for the individual child to whom the teacher speaks quietly regarding his health or cleanliness. In other cases each child comes to the teacher upon entering the class to exchange greetings and show the teacher that he or she has clean hands and clean clothes. In other cases a more formal inspection takes place after the pupils are in their seats.

5. Food at school.

Just as sanitation at school protects the child and teaches him to protect himself from certain communicable diseases, so food at school may contribute to good nutrition and teach the pupil how to protect himself from nutritional deficiency. In many rural schools the pupils bring their lunch. In other schools a balanced school lunch is served. In still other schools one or two foods are provided to supplement the food brought from home. In regions where kwashiorkor and other nutritional deficiency diseases are common, such supplemental food can play an important part in the vital programme of health promotion and nutrition education. It may be necessary for pupils to learn to like a new protein-rich food. The school is a good place for this because the child readily learns to like a new food when he is really hungry and when he sees others enjoying it.

Thus food at school helps to balance the daily diet either with a

balanced lunch or with the addition of a food containing a dietary essential which may otherwise be insufficient. The public health or agricultural experts on your programme-planning committee will indicate those suggestions which need to be put into your health education outline. In any case food at school should help in teaching the child what foods he needs for health, sanitary ways of handling food and approved habits of eating. (See also p. 51, DAILY REGIMEN IN LARGE URBAN SCHOOLS, *3.*)

6. Weighing and measuring.

If scales are available in the rural schools for which your outline is being prepared, you will probably wish to advise the teacher concerning their use. (See also p. 52, DAILY REGIMEN IN LARGE URBAN SCHOOLS, *4.*) Reports have come to us of weighing and measuring of rural school children for the study of growth and development, like those which have been under way in Mauritius since 1955. The more common use of regular weighing and measuring is to motivate the pupil toward healthful living through his desire to grow. Also, as Sarawak comments, it is 'an incentive to teachers to keep an eye on the developing physique of the children in their charge'.

The use of weight and height as a measure of the growth of an individual child requires repeated weighing and measuring at periodic intervals, the figures being placed on an individual growth chart. Relating the growth of the child to a national pattern demands an accurate knowledge of his age.

INTERPERSONAL RELATIONS IN RURAL SCHOOLS

What suggestions should be made to teachers regarding interpersonal relations?

In considering interpersonal relations we turn from educative experiences in physical health to those in mental health. The mental and emotional health of the pupil is directly affected by interpersonal relations between pupil and teacher and between the pupils themselves. These relations should be such as to help the child behave in a way to be accepted in his culture, to be liked, to live without undue emotional stress, and to find both success and friends at school.

Pupil–teacher and interpupil relations vary with cultural patterns having differences in permissiveness and authority, with the

status of the teacher in the community, and with the patterns of child–adult relationships in general. Suggestions to teachers about their relationships to pupils and the relationships of pupils with each other will be in line with social custom in the kind of community in which the child is growing up. Each curriculum committee is in a position to make specific suggestions to teachers regarding these relationships. (See also p. 53, INTERPERSONAL RELATIONS IN LARGE URBAN SCHOOLS.)

Healthful school living in large, highly organized urban schools in the temperate zone

The provision of healthful school living for the child is primarily in the interest of his own health; but it also contributes to the development of sound health habits and attitudes as he lives in a healthful environment with proper interpersonal relations and a hygienic regimen. He is helped to realize his responsibility for maintaining a safe and clean school. He avoids spitting on the floor, the use of common drinking cups, the improper use of toilets, and other unsanitary practices. He accepts and enjoys clean and attractive surroundings, a healthful schedule of work and play and sound social relationships. Later, at the appropriate age level, he learns how these elements of hygienic living are important to health.

SCHOOL SANITATION IN LARGE URBAN SCHOOLS

What information should the curriculum suggest regarding school sanitation?

The choice of the site for a school, the planning of school grounds and the construction of the school building are in the hands of the government. Health authorities and education authorities set and maintain appropriate standards which are defined in national or state regulations. They may, or may not, appear in health curricula. The local school health programme is concerned with the maintenance of a hygienic environment in whatever school buildings are provided.

It is recognized that some teachers may find themselves in schools where sanitation does not meet ideal standards. Much can be accomplished by good housekeeping even if conditions are poor.

The school may be able to secure an improvement in conditions from authorities or from interested groups in the community.

Items which may be considered in suggesting sanitary standards or practices include:

1. Safe drinking water
Requirements as to source.
Prohibition of common drinking cups.
Requirement of individual drinking cups or single service paper cups or drinking fountains.
Specifications for construction of drinking fountain.
Number of fountains required per 100 students.
2. Flush toilets
Number required. (Standards commonly set are one toilet seat for each 50 boys, one urinal for each 30 boys and one toilet seat for each 30 girls. Some schools have small toilet rooms adjoining each primary grade classroom.)
Requirements of open-front toilet seats.
3. Hand washing
Requirements regarding warm running water, soap and sanitary towels.
Location of lavatories, especially in first two grades.
Adjustment of the height of lavatories to size and age of pupils.
Allowance of time for hand washing.
Number of lavatories per 100 pupils.
Common towels prohibited.
4. Food sanitation
Health of food handlers.
Dish-washing methods.
Disposal of food waste.
Adequate space in lunchroom.
Prohibition of the sale of sweets and foods on school property by vendors not under control of school system.
5. Bathing facilities, if shower baths are present
Care of dressing rooms or shower rooms.
Cleaning and disinfection of floor.
Foot hygiene in connection with shower baths.
6. Refuse disposal
Suggested procedure.

Avoidance of odour.
Avoidance of food and shelter for insects and rodents.
7. Lighting
Avoidance of glare and sharp contrasts between bright and dark surfaces.
Degree of illumination required in different school situations.
Dark chalkboards with reflectance not over 20 per cent.
Colours of walls and ceilings.
Requirements for artificial illumination.
8. Heating and ventilation
Desirable room temperature.
Procedure for temperature control.
9. Seating
Standards for construction of chairs and tables.
Seats adjustable to height of child.
Use of movable desks and chairs.
Seating and periodic reseating of pupils.

SAFETY IN URBAN AREAS

What suggestions should be made for the avoidance of accidents?

Suggestions for school safety programmes cover many conditions and activities. You may wish to make suggestions regarding such items as those listed below:

1. Playground safety, requiring:
Proper drainage and surfacing, to avoid both mud and dust.
Removal of all stumps and rocks.
Play areas fenced or so situated as to prevent children from running into the street.
Space per pupil.
Provision for supervision, use of the playground and arrangements by grades to ensure safety of younger children.
Provision for frequent checking of apparatus for safety.
2. Safety precautions on the way to school.
3. Safety precautions in the school building (on stairways, at drinking fountains, in shop work, in the cafeteria).
4. Safety precautions in physical education.
5. Safety regulations for transportation by school bus, if one is used.

DAILY REGIMEN IN LARGE URBAN SCHOOLS

What items should the health education outline discuss concerning the provision of a healthful daily regimen for pupils in urban schools?

The following topics are discussed in outlines and other material prepared for teachers:

1. Daily schedule

Some items affecting the school day are not under the control of the teacher. These include the length of the school day, the arrangement and sequence of subjects, the size of the class, provision for handicapped children, the length of class periods, the grouping of pupils on the basis of their learning ability and the policy regarding examinations, grades and reports.

On the other hand, there are many administrative and routine phases of school life which the teacher can influence in the interest of health. If homework is required, the teacher can help the child to plan this activity with suitable lighting and ventilation, proper study table and chair, and the avoidance of interruption. The teacher can help the child adjust after-school activities to his needs and limitations. Undue and excessive anxiety over examinations and grades can be alleviated. A concept of discipline can be developed which regards it as order, system and arrangement for the common good, with the avoidance of the idea that school is the place where one must obey the teacher or be punished.

2. Every morning health review

In the primary school, where communicable diseases are most common and where habits of cleanliness are being established, the daily observation of pupil health is of special importance. A few minutes at the beginning of the school day may be taken to check pupil appearance and items of cleanliness. Some teachers also use this period, intermittently if not constantly, for checking pupil achievement in some specific health practice which the children are trying to improve.

Procedures vary in the daily observation of cleanliness and pupil health. Some teachers prefer to stand near the door and greet each child as he arrives, or to have the children come to them individually as they enter the room. Other teachers prefer to move about the room, observing individual children. Still others organize the activity more formally with a health club.

The teacher decides which items he wishes to check. It is common practice to look for possible symptoms of colds and other diseases, cleanliness of hands, face, nails and handkerchiefs, and for neatness of hair and clothing. The prompt referral of the child who needs medical attention to the school physician or family doctor is of primary importance.

3. The school lunch

The school lunch provides another opportunity for learning experiences in health, whether it is the mid-morning lunch for young children or the noon lunch.

A mid-morning lunch is common in many parts of the world for both adults and children. Schools have reported that the mid-morning lunch contributes to nutrition, relieves fatigue and helps the pupil do better work during the latter part of the morning. Primary school children who have the benefit of such a lunch are taught to wash their hands before eating, to serve the lunch without touching the food of other persons with their hands, and to develop proper habits of eating. The lunch is served not later than ten-thirty in order to avoid interfering with the child's appetite at noon.

The serving of the noon lunch, particularly to older pupils and students, is a more complex undertaking. School authorities have the responsibility to see that those who conduct the school lunch are free from communicable disease and that they know how to practice cleanliness of person, how to store and serve food properly and how to prepare the foods without excessive loss of food values.

Where the noon lunch is served on a cafeteria plan, students should learn to choose a satisfactory lunch, to wash hands properly and develop courteous and unhurried habits of eating. Class instruction in nutrition can be advantageously related to lunchroom experience.

Many schools, unfortunately, do not allow enough time for students to eat comfortably; they do not provide enough handwashing facilities for students to wash their hands in the time available; and they do not provide enough space to seat pupils comfortably.

Undesirable practices are the selling of sweets by uncontrolled vendors beside the school yard and the sale of sweets by some groups within the school building to make money for a charity.

4. Weighing and measuring

Primary school children like to watch their growth. Every child wants to grow and this desire provides an unexcelled motivation for the elementary school child in the development of health practices. Regular weighing gives the child an opportunity to see a relationship between habits and growth, and very often he will know the reason for an unusually good gain or for failure to gain.

Weighing done by the teacher in class is an educational procedure, not a diagnosis of health status. In temperate climates schools which weigh children monthly have found that failure to gain for three successive months during the school year indicates that something is wrong and that it is usually worth while to look into the child's status with respect to physical defects, recent illness and unhygienic habits of living.

Forms are needed for keeping height–weight records and reasonably standardized methods of weighing and measuring are required. The regular monthly weighing takes place at about the same time of day and with the same weight of clothing. Specific directions for determining weight and height need to be included in the teacher guide, but they need not be delineated here.

A word of caution should be said with regard to the use of tables of average weight. Children vary in body build and no one knows exactly what any one particular child should weigh. It is unsound and unscientific to think that every child should be of average weight, or to use the word 'average' in the sense of 'normal' or 'proper' weight for a particular child. Severe emaciation or severe obesity may require medical attention; but the value of regular weighing and measuring lies in the opportunity to see whether growth is reasonably continuous.

Weighing is usually done in regular health class time. The teacher weighs the children in the lowest grades and older pupils weigh themselves. There should be no hesitation in taking class time for this activity because of its superior motivational value. This is an unexcelled opportunity for the teacher to work with the individual child with respect to his health practices.

5. Relaxation

Another routine procedure of special importance to the health of the primary school child is planned relaxation. Physical education provides a restful change from the continued sitting position of the

pupil. Some outlines suggest to teachers that, where there has been no physical training period before ten in the morning or two-thirty in the afternoon, the teacher should arrange a brief period of relaxation. In some cases prone relaxation is possible and children relax completely. In other cases the children relax briefly in their seats. They put their heads forward on their arms, with arms on the desks and muscles relaxed. Brief stretching exercises ordinarily follow such relaxation. Teachers who have experimented with this brief break in the work schedule have unanimously endorsed it.

INTERPERSONAL RELATIONS IN LARGE URBAN SCHOOLS

What help can be given to the teacher in developing desirable interpersonal relations?

Some teacher guides indicate the objectives sought, the characteristics which the teacher helps the pupil to develop, and desirable teacher–pupil and interpupil relationships.

The school seeks to develop those interpersonal relationships which will be conducive to the mental health of the child, which will give him a feeling of belonging, of being wanted, of being liked, of being secure. Good interpersonal relationships make the classroom a friendly, enjoyable and interesting place.

The teacher who contributes most effectively to good interpersonal relationships is so emotionally secure that his own problems are not projected upon the children. He understands children and has a genuine affection for them. He is impartial in his relationships with pupils. He has a sense of humour and the ability to laugh with children, not at them. He respects the personality of the child and has a spirit of toleration which pervades the classroom.

Desirable teacher–pupil relations are found in the way the teacher greets each child by name, in his tone of voice, and in his interest in the experiences of the child. He talks with the children about things which interest them. He tells pupils about interesting experiences of his own. Friendships strengthen as teacher and children work, laugh and play together.

The teacher analyses and seeks to meet the emotional needs of individual children. He is alert to mental and emotional problems which may be reflected in extremely aggressive or antisocial behaviour, shyness, withdrawal tendencies, discrepancy between

intellectual ability and school achievement, or sudden changes in attitudes, behaviour or scholarship.

Constructive interpupil relationships are encouraged. All children are helped to participate in what is being done. The shy, timid or withdrawn child, who is most in need of a feeling of belonging, is given important tasks to perform and is helped to join in games and parties.

2.2 Health education through school health services

Where reasonably extensive school health services exist, pupils learn from their contact with school health personnel some facts about the prevention and control of disease and the kind of help which is available from physicians, and also from nurses, dentists and other paramedical personnel. They gain appreciation of scientific medicine and, what is most important, they learn what health problems they have as individuals and what to do about them.

We shall not discuss here the technical or professional aspects of school health services or suggest what school health services should be provided. We shall indicate the kind of information which health education outlines give to teachers about these services. A health education curriculum indicates the scope of medical activities, but it does not describe medical procedures or the techniques used by physicians, dentists, nurses or other health personnel.

The teacher needs to know what the health services are, how he is expected to cooperate with them and how he can help them contribute to the health education of the child.

Six commonly recognized activities in school health services are: (1) aiding in the prevention and control of communicable disease, (2) health appraisal of pupils and school personnel, (3) promoting or effecting the correction of defects, (4) emergency care in accident or sudden illness, (5) special health services for exceptional children, and (6) supervision of environmental health.

The care and protection of pupil health in rural schools in the tropics

What suggestions does the committee preparing a curriculum for rural schools in the tropics wish to give to teachers regarding the care and protection of pupil health and pupil learning experiences in connection with these activities?

Several countries report that many rural schools are without any school health services beyond what the teacher can do in preventing the spread of communicable disease, in rendering first aid, and in referring the sick pupil to whatever treatment is available. Many countries which have school health services in cities and large towns have not yet been able to provide them in village schools. Other countries feel that the school health services are limited to what can be done by the staff of a local midwifery centre, whose midwives and sanitary inspectors visit schools regularly, giving special attention to smallpox vaccination, discovery and treatment of yaws and minor ailments, and giving advice in matters of school sanitation.

Some countries have said that teachers in their rural schools are given careful training in first aid and are taught to recognize disease conditions for which children should be referred to whatever treatment facilities are available. Some outlines carry a statement of the symptoms of such referrable diseases. Others carry a communicable disease chart, giving symptoms, modes of transmission, incubation periods, rules for exclusion and readmission. Sometimes a manual on first aid is published separately. Many rural schools report having first aid kits.

Teachers neither diagnose nor treat. It is obviously undesirable for teachers to undertake medical responsibility. What responsibilities shall be assigned to teachers where health services are lacking or severely limited can only be decided by existing health authorities and education authorities. What information should be passed on to teachers in the health education outline or in a separate publication regarding what they are to do and what the available health service can do for them must be decided by the curriculum committee. The teacher will be encouraged to use whatever opportunities exist for health education. Pupils, according to their maturity, learn about diseases in connection with immunization and the presence of communicable disease in the

school. They learn the nature of such physical defects as are discovered. Accidents and first aid provide lessons in safety and personal care.

Some rural schools have a reasonably extensive school health service and curriculum committees preparing an outline for such schools will wish to examine the following section.

School health services in large, highly developed urban schools in the temperate zone

Some health education outlines describe the services of the various members of the health staff. They give such information as when physicians, nurses and other members of the staff visit schools, the basis upon which teachers can go to doctors or nurses with personal problems or health problems of individual pupils, the nature and extent of psychiatric or other specialized health services, the extent of dispensary services if they are provided, the possibility of home contacts through the nurse or home visitor and possible cooperation of the health staff in health instruction.

Our interest is in the health education possibilities and the information commonly provided in health education outlines regarding the major activities of school health services.

PREVENTION AND CONTROL OF COMMUNICABLE DISEASES

The presence of a communicable disease in a class provides a learning experience which the child never forgets. The memorizing of cold facts about such a disease is relatively difficult. On the other hand the children will long remember what happened when a classmate had the measles.

With respect to the prevention of these diseases the teacher needs to know what immunizations are required or recommended at both the preschool and school levels, and what information regarding the previous immunizations of the pupil is available in the school health records.

The teacher wants the answer to such questions as the following: Is there a rapid inspection of all pupils at the beginning of the school term in order to find children who may have brought back an infection from the vacation period? If so, what is the teacher's responsibility in connection with it? What are the signs of com-

municable disease for which the teacher may watch in the morning inspection of children, or in observing children at other times?

Many courses of study contain a list of symptoms, prepared by the school physician, for which pupils should be excluded from the classroom and sent to the principal, nurse or physician for possible exclusion from school. They contain such items as unusually flushed face, nausea or vomiting, unusual pallor, red or watery eyes, any rash or spots, dizziness or headache, swelling of neck glands, chills or fever, symptoms of acute cold, listlessness or sleepiness, coughing or sneezing, pains in chest, limbs or back of neck, and stiff or rigid neck, diarrhoea.

How does the teacher report a child whom he suspects to have a communicable disease?

What observations or inspections are parents encouraged to make of their children before they start to school in the morning in order to prevent a child from going to school when he is coming down with a communicable disease? How is this parent education carried on?

What facts are supplied to the teacher for ready reference in connection with the early symptoms, exclusion, isolation, quarantine and readmission of pupils with each of the more common infections?

What is the policy of the school with regard to common colds?

(Since the symptoms of the common cold are the same as those in the early stages of many diseases, the neglect of what appears to be a common cold may be the beginning of the epidemic of some other infection. Authorities have urged that schools should do more to control the common cold. Some school health services suggest specific procedures.)

What are the requirements of the school with regard to testing for tuberculosis or other infection among teachers and pupils?

Frequently a concise chart covering incubation, early symptoms, isolation, quarantine and readmission to school for each of the common communicable diseases, is put into the Course of Study or published separately.

HEALTH APPRAISAL

Most health education outlines tell the teacher at what grade levels the examination of all children takes place. Some outlines indicate that health examinations or re-examinations are available for

tuberculosis contacts, pupils who have failed promotion, heart cases, applicants for working permits, or for children referred by the teacher because of serious underweight, overweight or poor growth record, or because they have returned to school following serious illness, or because they need medical attention for some other reason.

Many outlines give the teacher information about the scope of health appraisal in his school system. This appraisal may be a brief superficial inspection of the child with respect to a few items, or it may be more adequate health appraisal involving health histories, teacher or nurse observations, screening tests, as well as medical, dental and psychological examinations. The curriculum committee may wish to include health record forms in the Course of Study.

Teachers do not make diagnoses, but they are in a position to observe departures from normal health. Many courses of study give a list of danger signals, which teachers are asked to note. They are asked to watch for children who have difficulty in nose breathing, who are restless, listless, quarrelsome, uncooperative, shy or emotionally disturbed. They observe children who have twitching movements, who bite their nails, who have speech defects, who visit the toilet frequently. They note children with reading difficulties, with poor posture, with poor muscular coordination. They note the children who tire easily, who are obese or very thin, who do particularly poor school work, who report poor sleeping habits or inadequate diet. Such observations may result in sending a child to the physician and, in any case, they provide extremely valuable information for the physician at the time of the health examination.

Vision and hearing are physiological functions vitally related to the learning process and the teacher's participation in determining departures from normal sight and hearing is of great importance. In some schools, teachers are expected to test visual acuity with a Snellen chart or other device. They may be expected to test for the presence of astigmatism. Detailed instructions are carried in the health education curriculum, or elsewhere, for whatever tests the teacher is expected to make.

Teachers are also urged, in many outlines, to observe behaviours which may indicate visual disturbances, such as:

Rubbing the eyes frequently.
Poor attention at the time of chalkboard exercises.
Attempting to brush away blur.
Holding the body tense or screwing up the face when looking at distant objects.
Holding the book at the wrong distance from the face when reading, blinking continually, tilting the head to one side, making frequent change in the distance at which the book is held, or losing place on the page frequently, or confusing letters that look somewhat alike.

The teacher is given specific directions in many outlines or separately for the testing of *hearing*, whether the test is made with the audiometer or by some other method. Health education outlines urge the teacher to observe not only evident deafness, ear discharges and repeated earaches, but also inattention, peculiar listening posture, an anxious or listless expression when someone is speaking to the child, talking too loud or too low, giving irrelevant answers, or having peculiar enunciation.

The teacher has an important function in *preparing pupils*, especially younger children, *for the health examination.* If the teacher understands the nature of the examination and creates the proper atmosphere and orientation, the young child will not fear it. Instead he will be eager and interested. If, on the other hand, the pupil is frightened or does not have the right attitude, the school physician is working under an appreciable handicap and the child's learning experience is an unfortunate one.

The teacher is usually expected to participate in the examination itself. He may check speech, weigh and measure pupils and record findings, or assist the nurse in doing so.

Most outlines indicate that the parents should be present at the physician's examination of the elementary school pupil, whether the examination is at school or in a physician's office.

Dental examinations are reported as being done at school or in the office of a private dentist.

Teacher guides indicate the nature of psychiatric or other specialized health services where they are available.

THE CORRECTION OF DEFECTS

The suggested functions of the teacher in helping to secure remedial

or corrective treatment vary according to the extent of the school health staff. Where there is a school nurse or health visitor, that person accepts major responsibility for follow-up, but even here the influence of the teacher is very important in stimulating interest in having the corrective work done. Some teachers keep a notebook in which needed corrections are listed, and to which both teacher and nurse refer as, one by one, the needed treatments are secured. Many teachers have had great success in making 'dental correction' a class project which provides recognition for each child when his dental work is completed. The prompt correction of a defect contributes to the child's health and to his health education.

EMERGENCY CARE

School health programmes recognize that the school has a responsibility for children who become sick or injured on the school premises and every teacher should know the well-defined procedures to meet these situations, whether they are major disasters or minor difficulties.

Health curricula indicate that teachers need adequate training in first aid, because often a physician or nurse is not present. A health office or nurse's room provided with first aid equipment and supplies is highly desirable. An isolation room or facility for the temporary detention of a child with a communicable disease is commonly provided. Teachers and principals need to know how to reach a parent, the family physician, or someone to accept responsibility for each child. Plans for hospitalization and the making of proper accident records are necessary. Directions as to what is to be done and a statement of general policies reflecting the transfer of responsibility from the school to the home or some other agency, are commonly carried in the Course of Study, or in a separate document. Some courses of study carry a list of desirable first aid equipment.

2.3 Health instruction

The detailed plans for health instruction form the body of the health curriculum.

The desirability for direct instruction in health, either as a separate subject, or as specific units or topics within other courses, is

now generally accepted. The question of pupil time must be weighed against the importance of health. One national committee recommends that the time allotment to health education in the primary school should be equal to that of other major subjects in the curriculum.

Health education, like language education, needs to be continuous. It seeks the development and strengthening of health practices, the gradual increase in health knowledge, and the increasing acceptance of responsibility for health maintenance. The number of facts taught will increase grade by grade as the child's capacity for understanding grows greater, as his natural curiosity demands more information, and as his responsibilities for health maintenance increase. Repetition with respect to fundamental health habits is necessary, just as repetition with respect to the development of grammatical sentences is necessary in language. Health instruction avoids boredom by a fresh approach at each grade and by emphasis on new material and expanding responsibility.

Each curriculum committee will set the programme of direct instruction in line with the teaching methods in its primary schools. Suggestions for direct health instruction most commonly found propose one or more of the following procedures:

1. The presentation of health as a separate subject with plans either for separate lessons or for units of health instruction each covering more than one class period.
2. Units of health instruction presented with another subject.

In several countries, health instruction is presented in the science curriculum. In the Republic of China, health and social relations involving good manners, politeness and patriotism, are taught together in a course in 'Health and social customs'. In Finland, health instruction is planned in a course called 'Health and social studies'. Another proposal is to teach health in a course in 'General knowledge', including learning experiences in several areas such as physiology, hygiene, nutrition, soil study, agriculture, horticulture and fishing. In many programmes health and physical education are combined.

3. The integration of health instruction with other primary school subjects in units of instruction each based upon a 'centre of interest' with learning experiences specifically planned in the respective tool subjects.

In addition to one of the above procedures, many outlines suggest specific health correlations in the teaching of other subjects.

Health instruction in rural schools in the tropics

What suggestions regarding health instruction will be useful in the health outlines prepared for teachers in rural primary schools in the tropics?

The majority of these schools will serve the first one, two or three grades. Many of them will be multiple-class schools. Instruction in the early grades is less formal than at higher levels and time allotments are less rigid. The teachers are concerned with the motivation of health behaviour and the amount of factual information to be acquired by the pupil is limited.

Emphasis in a great number of these schools is likely to be centred upon environmental health, the prevention of communicable disease and the maintenance or securing of adequate nutrition. For these reasons a problem or action-centred approach is highly desirable. Such an approach lends itself especially well to the programme of the multiple-class school. These schools use the same variety of pupil activities or learning experiences as the grades which they represent. The curriculum or the teacher himself suggests the distribution of activities in each unit of study according to the ages of the individual pupils.

Some outlines lay a foundation for later instruction concerning communicable diseases by a lesson on magnification. Parasitic organisms are not mentioned in this lesson but the pupils learn that things can be made to look larger by viewing them through curved glass. They learn that magnification makes it possible to see things which could not be seen by the naked eye. The teacher holds a pencil behind a glass of water as a first demonstration. Then something is seen through one, then two, then all three lenses of a hand magnifier. This shows that the amount of magnification can be increased with stronger lenses. A compound microscope may or may not be available; but in any case pupils accept the idea that it can magnify much more. If a microscope is available, children look at a mould or at the bacilli in 'mother of vinegar' or at some other interesting microscopic organism.

In schools where white rats are available as pets, a favourite

project for the middle grades is that of putting two young animals from the same litter in separate cages. One is given a diet containing adequate proteins. The other is given a diet low in protein but high in carbohydrates. The more rapid growth of the former shows the growth effects of proteins.

Appendix II reflects one programme of the action type. Perhaps it may suit no other school system as it is; but it does provide a concrete illustration of a programme which has been successful and which may have suggestions for curriculum committees.

Curriculum committees planning for rural schools will also be interested in examining the following section for urban schools for such suggestions as it has to offer.

Health instruction in urban schools in the temperate zone

What teaching plans should be proposed, grade by grade, for the teaching of health in large highly specialized urban primary schools in the temperate zone?

We are considering here the organization of teaching plans for direct health instruction. As we have mentioned above, many outlines also suggest to teachers the use of incidental health teaching when suitable situations arise and health correlations with other subjects in the curriculum. Mention has been made of incidental teaching (1.6) and examples of correlation will be mentioned later in this section. Many curriculum committees have pointed out the danger of expecting to develop adequate health instruction through incidental teaching and correlation alone, and the importance of planning an orderly programme of direct health instruction.

THE ORGANIZATION OF TEACHING SUGGESTIONS

A few outlines present simple statements of what is to be taught. It is generally realized, however, that teachers have little time to look up ideas, information and materials and most outlines make suggestions of methods and activities in each proposed lesson or unit of study. The teaching plan is commonly organized under such headings as:

1. Concepts or objectives or content

Facts to be learned; attitudes to be encouraged; habits to be promoted.

2. Class activities and procedures

Suggested topics for class discussion; new words to learn; questions to be answered; possible dramatization or role-playing; reading assignments; writing of reports, stories or letters; field trips; preparation of drawings or models; simple experiments; preparation of standards of behaviour; quest for pictures and other illustrative materials; correlation of topics with what is being learned in other subjects.

3. Source materials

Textbook references and other references on the topic; films, 'film strips', posters and other available instructional materials.

4. Teacher information or background knowledge for the teacher

This is sometimes given in a separate section of the outline, sometimes in each lesson or unit, and sometimes it is left to the textbook, if one is being used.

5. Suggestions for the evaluation of the lesson or unit

Suggested questions for testing pupil knowledge; the use of standard health knowledge tests; observations of pupil condition or behaviour as in personal cleanliness or grooming; use of unsigned reports on health practices for the previous 24 hours.

Sometimes suggestions under such topics as those just listed are presented in sequence. In other outlines they are put in tabular form across two facing pages as illustrated below.

Title of Lesson or Unit

Concepts	Class activities	Source materials	Teacher information or reference	Evaluation

The desirable *characteristics* of teaching units are set forth in some of the outlines. Suggestions to teachers who are preparing their own units indicate that the learning experiences should be adapted to the abilities, skills, knowledge and interests of the class, dynamic in contributing to the development of desirable habits and attitudes, consistent with the objectives set forth, contributory to progress in the tool subjects, reasonably flexible in providing different possible activities for different children, definite, purposeful, satisfying and rich in opportunities for pupil progress.

It is suggested that the *selection* of the problem or topic should

be based upon educational and health needs, that it should involve real situations, and that it should lead to new interests. In some schools the children have a hand in selecting it.

It is desirable that the *approach* should be a real and interesting introduction to the activity. It is the point of departure for the child upon a new adventure in education; it is a link between the known and the unknown. It should stimulate curiosity and make the pupil eager to undertake the activity.

The *objectives* should be perfectly clear and preferably in short and concise statements. They should represent specific, practicable and obtainable achievements in attitudes, habits and/or knowledge.

Suggestions for the development of lessons sometimes present separate *teacher activities* and *pupil activities*, in the interest of clarity. In many units, teachers and pupils together select the detailed questions which will be answered and plan specific experiences to find the answers.

Definite outcomes should be sought and where possible *evaluated*. A critical judgment concerning the value of a completed unit is helpful to the teacher in the development of professional skill. In reviewing the unit, the teacher can check the extent to which it meets such criteria as those indicated above with regard to pupil interest, age level, difficulties, clarity and practicability. The contribution to attitudes and practices can be estimated.

DEVELOPMENT OF ATTITUDES

How will the course of study indicate the attitudes to be emphasized?

We have mentioned the desirability of developing an attitude toward health which regards it as a means of enriching life, and not as an end in itself. In simple language, health is sought for what it helps us to be and to do. We have also mentioned the desirability of a pupil attitude toward health practices which recognizes them as related to growth and immediate accomplishment, rather than as ends in themselves.

The word 'health' as an abstraction means very little to primary school pupils. They are not easily influenced to undertake a programme of healthful living because of its beneficial results in middle life. They 'go into training for health' because it contributes to objectives of everyday life, such as growth, having a healthy and

pleasing appearance and being able to work and play better. Health is an area in which success can be achieved because all children can improve health practices to some degree. The recognition of these individual successes makes the health programme enjoyable for the child.

In the development of any individual health habit the teacher is, of course, concerned with attitudes which will help the pupil recognize the value of the habit and desire to practise it. Obviously no list of attitudes with reference to individual habits is necessary.

HABIT EMPHASES

How will the curriculum indicate the health habits to be emphasized grade by grade?

Specific habit objectives, as well as knowledge and attitude objectives, are a part of the detailed suggestions given to the teacher. Many courses of study carry an appendix, somewhat like that of Appendix I in this volume, which contains a fairly complete list of desirable learning experiences and health practices.

Some curricula indicate where *emphasis* on health practices occurs, in the form of a table like the following, where x indicates that the habit is considered, and xx indicates that it is emphasized:

Grades	*I*	*II*	*III*	*IV*	*V*	*VI*
Goes to sleep in time to get sufficient hours of sleep	xx	xx	xx	x	x	x
Helps keep school and grounds clean				xx	x	x

GRADATION

What plans need to be made for gradation and progression in subject matter?

There are many ways of providing a fresh approach for each grade. The following paragraphs suggest one of the many possibilities. They present an example rather than a model.

In grades I and II, the work is new to the child and there is no problem of a fresh approach. Emphasis is placed upon a limited number of most important health practices.

In grade III, emphasis may be upon healthful living and growth. A few items of health knowledge are developed. Many schools use a health reader.

In grade IV, there may be a changed approach in line with the child's ability to take greater responsibility for his daily regimen. There may be an appreciable increase in items of health behaviour considered and an increased emphasis on the 'how' of health behaviour. In some schools, the first textbook in health is used. There may be special emphasis on safety.

In grade V, the new approach may emphasize the 'why' of health practices with information drawn from experience, illustrations and comparisons. Only the simplest ideas of the nature of the body are presented. There may well be special emphasis on food and nutrition.

In grade VI, an interesting new approach may be the biological approach to cleanliness, with the consideration of the nature of soil, dirt, mould and harmless bacteria. The pupil is ready to take further responsibility for his own health behaviour. He can be helped to become interested in the concept of bacterial cleanliness and in the prevention of communicable disease.

Most courses of study indicate what knowledge is to be acquired at the respective grade levels. For example, one outline suggested that by the end of the third grade, children may be expected to know:

That regular growth is a sign of health;
That habits of health are related to the way one feels (loss of sleep, for example);
Some of the important health practices;
That there are some (poisonous) plants which are harmful;
That some diseases are 'catching' and can be avoided by staying away from people who have such sicknesses;
That food is fuel and growth material for the body;
Some good foods for growth;
What constitutes an adequate breakfast;
That fruit and vegetables promote health and digestion;
That chilling may help a cold to develop;
How to adjust clothes to weather conditions.

One teacher guide proposes the following plan of instruction for grades IV, V and VI. Each unit of work is outlined in detail in the teacher guide, with an organization similar to that described above (pp. 63–4). It is presented here as an example of what is done and not as a proposed plan for other school systems.

Grade IV

Unit 1 *Introductory and planning unit* (2–4 weeks)

Unit 2 *Keeping clean* (5–9 weeks)

Personal: hands, face, hair, skin, feet, grooming
Home: dishes, rooms
School: desks, classroom, coatroom, playground
We help keep the town clean: trash, rubbish, garbage, streets, milk, markets

Unit 3 *Safety* (4–8 weeks)

Fire, falls, poisons, water, street, automobiles, bicycles, coasting, walking, sliding, skating

Unit 4 *Good teeth* (3–6 weeks)

Kinds, dental care, cleansing, foods

Unit 5 *Good foods* (3–5 weeks)

Food affects growth, choosing a good breakfast, lunch, dinner, eating properly, dangerous substances—tea, coffee, tobacco, alcohol

Unit 6 *Sleep and rest* (3–6 weeks)

Times for rest and sleep, sleeping comfortably, going to sleep

Unit 7 *Growing straight and strong* (6–10 weeks)

Sitting straight, standing and walking well, play at school and in vacation, taking good care of the feet

Grade V

Unit 1 *Introductory and planning unit* (2–4 weeks)

Unit 2 *Food for health* (6–10 weeks)

Growth and repair foods, fuel foods, vitamins and minerals, balanced meals, harmful substances—tea, coffee, alcohol, tobacco

Unit 3 *A good digestion* (4–8 weeks)

Digestion in mouth, stomach and intestines, habits which help digestion, good manners, cheerfulness, proper eating, foods which digest well, when to eat, avoiding constipation

Unit 4 *The work of the teeth* (3–6 weeks)

Importance, two sets, structure, foods, cleanliness of teeth, toothbrush, avoid injury to teeth, visiting the dentist

Unit 5 *First aid and safety* (3–6 weeks)

Planning for safety at school, dangers of poisons, snakes,

spiders, falls, first aid, calling the doctor, helping in the care of bruises, burns, nosebleed, fainting

Unit 6 *Learning and doing* (4–8 weeks)
How the brain and nerves control the body, we can decide the kind of person we want to be, taking care of the nervous system, sight, hearing, touch, taste, smell and their care

Unit 7 *The body at work* (4–8 weeks)
Keeping body strong and fit, work and play, proper breathing and what it is for, the usefulness of the circulating blood, keeping the body at the same temperature, health practices which help the body carry out these activities

Grade VI

Unit 1 *Introductory and planning unit* (2–4 weeks)
The development of health habits is more completely separated from study of new material than in lower grades.

Unit 2 *Moulds and bacteria* (6–10 weeks)
Nature of mould, preventing the growth of mould, bacteria, how they grow, uses of bacteria, harmful bacteria

Unit 3 *Health heroes* (4–8 weeks)
Pasteur and his study of disease, Jenner and smallpox vaccination, Behring and diphtheria control, others

Unit 4 *Cleanliness of the mouth and skin* (4–8 weeks)
Care of mouth and teeth, nature and prevention of tooth decay, the nature or structure of the skin, the importance of clean skin, care of the skin

Unit 5 *The cleanliness and care of the breathing structures* (4–8 weeks)
The nature of the breathing structures, common colds and how to prevent and care for them, the conquest of tuberculosis

Unit 6 *Clean surroundings* (6–10 weeks)
The war against animal enemies, mosquitoes and disease, mosquito control, houseflies, bedbugs, hookworm, cleanliness at home, dust and dirt, the care of food, preserving food, laundering, care of kitchen, refrigerator, bathrooms, bedrooms and cellar

All health education outlines differ in emphasis. For example, health instruction in the first four years of school in Poland emphasizes:

1. Elementary ideas of microbes and contagious diseases.
2. Preventive measures in contagious intestinal diseases.
3. Prevention of respiratory diseases.
4. Daily regimen of activity and rest of the pupil.
5. Strengthening of body—physical education and sport.
6. Personal and dental hygiene.
7. Pupil attitudes toward health and hygiene.
8. Accident prevention.

In the United Arab Republic, no formal health lessons are given in grades I and II. In subsequent grades in connection with the teaching of science, emphasis is placed upon cleanliness of body and clothes, sanitary housing conditions, water, essential crops, nutrition, useful and harmful insects, food production, air, and the elements of body structure and function and common diseases.

Many school programmes provide practical instruction for girls in home nursing and 'mothercraft'.

CORRELATIONS

Correlations of health with other subjects are of three broad types.

1. Health facts, experiences, situations or problems are used with the teaching of tool subjects to make them more interesting to the pupil, as when he learns to read from health subject matter, or writes about his health interest or solves arithmetic problems related to his food, his growth or his hours of sleep.
2. Other subjects supply supporting information for health in the middle grades as the pupil studies light, air, temperature, or biological growth in his course of general science.
3. The importance of health in life situations is emphasized as the pupil begins the study of history and civics. He sees that health has been important in the progress of individuals and groups of people. He finds ideals of mental and physical health in art and literature.

Correlations are commonly suggested as part of the plan for each health lesson or teaching unit.

Some curricula suggest specific correlations separately such as:

Arithmetic
Problems requiring computations regarding quantities of food, hours of sleep and length of time.
Language
Topics for writing a paragraph, possibilities in letter writing and the writing of stories.
Reading
Specific books with health content suitable for the grade level are suggested.
Elementary science
Suggested health relationships with respect to insects, lighting, or harvesting.
History
Health relationships in historic events and in the lives of great men.
Geography
Health in relation to different food crops, different agricultural operations, fishing, transportation or mining.
Spelling
New words which are used in health lessons.
Music
Health songs are suggested in relation to exercise, mental hygiene, fresh air and sleep.
Art
Health posters, scrapbooks, 'favours' for a health party, illustrations and covers for a health magazine.

Teachers serving on curriculum committees have no difficulty in suggesting specific correlations.

LEADERSHIP AND SUPERVISION IN HEALTH EDUCATION

No standard pattern to provide leadership and supervision in health education has emerged. A few areas have advisers or supervisors in health education. Such a person can help large numbers of teachers to strengthen their health teaching and can make a significant contribution to public health. Many professional groups have urged such supervision.

Where there is no special adviser in health education, the responsibility for maintaining the quality of health instruction falls upon the general primary school supervisor, whose leadership will depend upon the professional preparation he has received and the interest he has developed. The problem of leadership and supervision is so important that curriculum committees may wish to consider possibilities and make recommendations.

2.4 School, home and community relations

The primary school pupil is having educative experience at home and in the community as well as at school. It is most unfortunate and frustrating if the teacher and the parents prescribe conflicting health behaviour or if the home rejects what the school suggests. School, home and community are all involved in the health education of the school age child.

School, home and community relations in rural areas in the tropics

What school, home and community relations should be suggested to teachers in small, new rural primary schools in the tropics?

Health authorities and education authorities in developing countries were unanimous in urging that parent education or adult health education in the community should go forward with health education in schools. We cannot expect the school child by himself to change traditional health practices in the home, even though modern living conditions have made them outmoded or dangerous to health. The health education of parents is also important to the health of the preschool child. Life in the family has already influenced his health and his health habits when he comes to school.

One writer, who said that 17 per cent of the children entering his schools were in poor nutritional condition, commented that poverty is not the only cause of malnutrition, asserting that 'ignorance comes first and foremost'. Another correspondent pointed out that many children of school age are out of school and will be reached only by a community-wide programme of health education. Still another correspondent commented that with a joint

school and community programme, the teacher can help to accomplish in a decade what would require a generation to do without school participation.

Education, agriculture, public health and economics are all involved in many movements for better health. This interrelationship of school, home and community is illustrated with respect to nutrition by the following statement from the unpublished report of a Joint Unesco/WHO/FAO committee which met in Paris in September 1964 (Report ED 213 in main document series).

'A national programme for the improvement of nutrition involves national planning and local implementation in such areas as:

improved use of available foods,

improved production of essential foods,

prevention of the waste of foods through improved storage, preservation, handling and marketing,

the wise selection of food for the daily diet of the individual and the family.'

Teachers in different places have participated in different ways in developing cooperation between the school and the home or community, according to the local situation.

One procedure is that in which the teacher organizes a committee on school health among the parents. If a physician, nurse, midwife or sanitarian is available, that person is asked to be a committee member. This committee exists to promote the health of children through the cooperation of teachers, parents and the children themselves. It begins work on some practical situation which can be improved by cooperative effort. Perhaps parents can help to provide better facilities for drinking water. Perhaps a better toilet is needed, or fathers can make a cupboard for storing books, or they can clear bushes or large rocks from the playground.

Or perhaps the school garden is an opportunity for school and home cooperation. The children may spend part of the assigned time in the school garden and part in the home garden. The teacher can go with the child to visit the home garden. Perhaps a mother or nutritionist can have a cooking party or a cooking lesson where the women and older girls can learn the preparation of a new food, which will be a pleasing addition to the diet and a contribution to health. The teacher discusses his plans for health instruction with such a committee. Contacts between teacher and parents are

provided by his visits to the home and by parental visits to the school to see pupil health activities of many kinds.

In some rural areas such a school health committee or council as we have been discussing has expanded into a community health council, giving its attention to health problems outside as well as inside the school. Teachers of rural schools have served as chairmen or as valuable members of such councils.

A still broader approach to community needs is to be found in programmes of a community development nature. This term is used by the United Nations and its Specialized Agencies to connote a complex of processes through which the people are encouraged to participate in improving 'their level of living with as much reliance as possible on their own initiative'.[1] Health education is an important aspect of community development. Like its health education component, the entire programme approaches problems from the standpoint of the people, brings the people together with such experts as are available, and develops sound action to meet the wants and needs of the community.

Pre-service and in-service instruction of primary school teachers has been established in many places to equip them for leadership or participation in such programmes. In Thailand, for example, the majority of institutions preparing primary school teachers now offer such orientation. (See pp. 120 ff.)

Curriculum committees know what activities in community health education or community development will be under way in their local communities and what suggestions for teacher participation are desirable. The social status or position of primary school teachers in the community varies widely in different countries and in any one country not all teachers can be expected to be equally successful in their community relationships.

In general, the qualifications of the teacher of the rural primary school for participation in health education outside the classroom are valuable and numerous. He is usually a native of the region and knows the customs and beliefs of the people. He knows that the mere imparting of new knowledge cannot be expected in itself to change behaviour, even though a knowledge of fundamental health facts lends a foundation for such a change (as when one

1. Annex III of the Twentieth Report of the Administrative Committee on Co-ordination to the U.N. Economic and Social Council (E/2931), 18 October 1956.

learns the causation of infectious disease). The teacher knows that behavioural change in a community is a slow, step-by-step process and that it is best to start with something the people understand.

In the study of educational processes, including adult education and through experience in the classroom, the teacher has learned many other things about behavioural change. He has learned to change customs only in so far as is necessary and to modify old customs by constructive changes rather than to attack them. He has learned that for adults as well as for children, many forces or resistances exist against the adoption of a new practice. For example, economics may be a factor as when a family uses meat from an animal which has died. Such meat is cheap; meat may be hard to get; and the danger of anthrax or other transmissible disease is not known by the purchaser. There are psychological and physiological difficulties in learning to use a sanitary neighbourhood latrine in place of the more private use of the bush.

Habits which have been followed since childhood become firmly fixed. To change practices long followed within the group may seem disrespectful to the parents, elders or traditions which have endorsed them. Religious beliefs may dictate some requirements in dietary or other health practices. Needed adjustment in the pattern of living in the interest of health may be slow. But it is always possible when the importance of the change is clear and the problem is approached understandingly, sympathetically and cooperatively.

Health is related in general to a better standard of living, but the family does not think of its desire for a better house, a better stove, better meals, better clothes and better education for the children, primarily in terms of health. These are fundamental human wants, desirable in themselves in terms of comfort, standing in the community, self-esteem, economic security and varied enjoyments in living as well as in terms of the health and welfare of the family. In promoting health education, desirable health practices may be related to these more specific and immediate objectives, wants and incentives of the individual.

The curriculum committee may wish to give teachers specific suggestions regarding the conduct of the home visit, committee meetings or other phases of home and community relations.

School, home and community relations in urban areas

What suggestions do curriculum committees wish to make to teachers in large urban schools regarding school, home and community relations?

The relationships of schools to parents, to other governmental agencies and to voluntary organizations is a matter of general policy of the education authority. The extent of these relationships varies widely.

The activities listed below have all been reported in teacher guides and elsewhere; but this long list does not reflect the programme of any one school system. All of the following activities provide opportunities for the schools and the parents to go forward together in improving the health education of children and adults. Some of them may deserve discussion in your health education curriculum:

1. Collaboration with health authorities

The law usually assigns to the health authority responsibility for the control of communicable diseases and, in many school systems, health authorities furnish the health personnel. We have already indicated the relationship of health personnel to health education. Cooperative relations between the two authorities open the way for appropriate school participation in intensive community campaigns in health education directed by the health authority. Such activities as malaria control, immunization against poliomyelitis, World Health Day, Safe Traffic Week, and sanitation in the eradication of hookworm disease, profit by understanding and cooperative action on the part of the whole population. Related instruction at appropriate grade levels and pupil participation provide potent educative experiences in health. Many comments from the field express the belief that community projects in health education should include the schools.

2. Contact with medical and paramedical professions

The description of the programme of school health and health education by school physicians, dentists, nurses, and others to the members of their respective professions serving the community at large has been reported as helpful in developing a friendly understanding of school health objectives and activities. In the Soviet Union, the presentation of the problems and activities in

school health becomes a part of the general programme of health education carried out by the medical profession.

3. Teacher visits to the home

Some outlines prescribe a fixed plan of home visits by the teacher and give him suggestions for the conduct of such visits. From such visits he learns the nature of life in the pupil's home and something of the economic, social, occupational, health and emotional status of the parents. Sometimes joint planning is helpful in providing for the child a programme with sufficient rest and sleep, adequate and leisurely meals, and appropriate out-of-door activities. In some areas planning may be needed to avoid excessive emotional stimulation from radio, television, or motion picture programmes and other sources. Contact between parents and teacher helps parents to understand the abilities and capacities of the child and to avoid forcing him into situations with which he is unable to cope. Sometimes better arrangements are made for the child's homework, if he has such assignments.

4. Home visits by the school nurse, or home visitor

These are usually in the interest of the health of the child. They also help parents to a better understanding of the school health and health education programme.

5. Communications to the home

In some areas various carefully worded communications in the form of a bulletin or letter to parents from the head of the school or the Department of Education have been used to explain the policies and activities of health education and to build friendly relations.

One bulletin has described school policy regarding examinations. Another dealt with the detection of incipient communicable disease or other illness. One, entitled 'Before they enter school', was sent to parents of preschool children to suggest to parents their part in the child's preparation for school entrance. In some communities a story about school health activities may reach the home via the local newspaper.

Questionnaires have been used in community opinion surveys and in turning the attention of parents to the child's health behaviour. For example, the Selkirk Health Unit of Manitoba, Canada, brought the parents into a school project in dental health education. A letter was sent to each home telling parents the

conditions found in examining the teeth of primary school pupils. Their cooperation was solicited in improving the dental hygiene, nutrition and professional dental care of their children. Later, in seeking to evaluate the project, questionnaires were sent to parents as well as to teachers. Eight hundred parents filled out the questionnaire and the majority said they had noticed improved habits of dental hygiene. The questionnaire also requested suggestions for the further improvement of dental health and 900 suggestions were made. A third letter to parents summarized the results of the questionnaire and thanked parents for their cooperation.

6. Parent visits to the school

When one or both parents visit the school at the time of the health examination, they learn the health problems and needs of the child and come to appreciate and support school health and health education. There are separate conferences of the parent with the teacher, with the teacher and nurse or with the teacher, nurse and physician. Parents come to the school to see pupil-health activities, demonstrations or exhibits, or to attend special festivals. Some parents come to the school to help with lunches, with screening for vision or hearing, with the preparation of equipment, with taking the class on a field trip, or with noon hour supervision.

7. The promotion of health education through a parent–teacher association or school health council

Groups of this type have undertaken many activities which contribute to the health and health education of pupils. One such project is the *health round-up*, in which mothers have visited the homes, acquainted each parent with the plans, and served light refreshment at the clinics. Such projects are reported to result in more children coming for examination and more children being given remedial care.

Another project has been the establishment of neighbourhood policy regarding health practices. Discussion among parents showed that children often felt that parents were unfair when they were not allowed to do what other children in the neighbourhood were doing. Agreements were reached regarding policies with respect to such home practices as watching television, attending movies, listening to radio, home responsibilities and bedtime hours.

Some groups of mothers have taken over the school lunch programme.

Study groups of parents have been organized to discuss education and health problems such as the growth and development of children, mental health or nutrition. Sometimes a professional leader is available to present the material for discussion; sometimes the discussion is based upon reading from a book selected by the group.

Some groups have helped teachers to secure films, film strips or other source material.

In Japan, the writer was the guest at a most constructive meeting of a school health council which serves a large primary school. The meeting was attended by the principal of the school, the local health officer, the school nurse, five teachers, eight parents and six of the older children. Practical school health problems were discussed and it was obvious that the group had worked together constructively and effectively.

8. Community health councils

Where there are councils considering community-wide health problems, schools have found it helpful to be represented.

9. Cooperation between schools and voluntary health organizations

Many schools make use of the planned programmes in safety, first aid and home nursing of the Red Cross or Red Crescent. Other organizations also provide resource materials in health instruction. Organizations like Boy Scouts and Girl Guides have health programmes which can supplement school health education. Organized camping in summer, for short periods during the school year or for week ends, has been found to make major contributions to health and health education.

10. Public meetings

Many types of meetings are used in community programmes of health education. These meetings are sometimes organized by a health council and sometimes by the schools themselves. Such a meeting may be a *lecture* by a specialist in health or health education or the showing of a *film*, a *forum* which combines a lecture with general discussion from the floor, or a *symposium*, in which several speakers present their views on a subject briefly, after which they have a round table discussion and the audience raises questions, or a *panel*, which is made up of three to six people who represent different points of view and sit at a table to discuss a subject informally under the direction of a leader, the audience

later raising questions to the panel and joining in the discussion. Small groups sometimes use *role-playing* or *dramatization*, in which an incident is chosen involving a health problem. Following the preliminary description of the incident, members of the group volunteer to act it out as a real-life situation. The ensuing role-playing enables parents and teachers to understand some of the feelings and relationships involved. The dramatization is usually summarized by a leader.

3 Planning for health education in secondary schools

THIS CHAPTER seeks to present helpful suggestions to curriculum committees preparing health education programmes for secondary schools. It is essentially in the form of an annotated agenda, raising the questions which are most likely to require consideration and indicating some of the ways those questions have been answered in existing health education outlines and by our contacts with Member States. It is assumed that the health education outline for the secondary school will be published separately from that of the primary school.

In this chapter a discussion of background material for the consideration of the curriculum committees precedes the presentation of possible educative activities. The reader is also referred to Chapter 1 in this connection, because much of its content is applicable to secondary schools as well as to primary schools.

Secondary schools, as considered here, are those which serve children and youth from the seventh through the twelfth grades, with characteristically departmentalized programmes, rather than programmes in which a classroom teacher teaches all subjects.

The six years of school under consideration are divided in various ways in different parts of the world. Some school systems have a three-year junior high school and a three-year senior high school. Others follow an eight-year primary school with a four-year secondary school. Still other systems have a six-year primary school followed by a seven-year secondary school. We shall report differences in health instruction in the early and later years of the secondary school, but we shall not discuss separate programmes of health education for the different types of secondary schools. National and local curriculum committees will, of course, plan activities and programmes of health education adapted to the kinds of schools in their respective areas.

This chapter does not, as did Chapter 2, present separate

discussions of health education in small rural schools and in large urban schools. Secondary schools vary widely and many do not have all of the facilities mentioned here. However, in the teaching of health they can all be considered together, because factual instruction is provided for pupils who have already acquired a somewhat comparable level of education in health and in other subjects. Since instruction is largely departmentalized, the health education outline is used more by one or a few teachers who teach health, than by the entire teaching staff. Thus, although the complexity of school organization and activities is greater in the large secondary schools than in the small ones, it seemed better to present a single discussion of the many procedures reported from these large schools than to attempt separate discussions for small secondary schools.

3.1 Background considerations for health education programmes in secondary schools

The Introduction discusses some of the problems common to all groups which are planning programmes of health education. Chapter 1 presents material of the kind commonly included in teacher guides in health education to orient teachers to the philosophy and desirable procedures in health education. Such orientation is important for the great body of teachers in the primary school, but perhaps less necessary for the teachers of health and related subjects in the secondary school. However, many secondary school outlines do contain definitions, statements of objectives and other background material.

The generally accepted objectives of health education (see 1.2) may be simply stated for the secondary school as:

1. To strengthen desirable health attitudes and practices in day-to-day living.
2. To provide information which will support those attitudes and practices and also give the student the basic knowledge needed for the future in maintaining his own health and that of his family, and in meeting his health responsibilities in the community.

Healthful school living, school health services, health instruc-

tion and cooperative activities between school, home and community, all contribute to the first objective. Planned health instruction is the primary, although not the sole, contribution to the second objective.

Curriculum committees choose the subject matter to be presented upon the basis of the present and future health problems confronting the students under consideration, their previous health instruction, the cultural beliefs, practices and attitudes of their communities and the resources available for health education.

Programmes planned for students who are going on to the university for further study are quite different from those planned for the much larger groups which are going directly into employment in industry or agriculture, and who will soon establish their own homes.

The developmental status and health needs of the student

An important consideration in planning health activities in all schools is the adaptation of these activities to the interests, needs and abilities of the student himself.

Secondary school students wish to do things for themselves and they have a considerable ability in organization. Student health committees or health subcommittees of student councils can help in the solution of many health problems.

Curriculum committees may wish to include in the syllabus a statement of the physical, mental and emotional status of students and the consequent health needs in the earlier years and in the later years of the secondary school. The experienced teacher already has such information in mind, and he also realizes that there is an increase in both the age range and the developmental differences in any specific grade and greater differences between boys and girls at the older age levels. If a statement of developmental status is used, it must be based upon the characteristics of youth of that ethnic group living in that climate. There follow, as an example, descriptive items from the literature reporting developmental status of youth in North America.

DEVELOPMENTAL STATUS AND HEALTH NEEDS OF NORTH AMERICAN YOUTH

Ages 12–14 inclusive (grades VII, VIII, IX)

The teacher realizes the sharp individual differences at any particular age and the fact that girls are a year or more ahead of boys in most phases of development during this period. Both boys and girls are moving from the comparative serenity of childhood to the complexities and challenges of adolescence.

Physical development

This is the age of puberty characterized by rapid acceleration of bodily growth. Appetites may be enormous and dietary excesses common. Heart and lungs are developing rapidly. Bones and ligaments are not yet strong enough to withstand heavy pressure. Arms and legs are out of proportion to the trunk, and awkwardness occurs. Endurance is still small and the child is easily fatigued. Postural defects are more obvious. Girls are more precise in their movements than boys.

Mental development

Pupils are most comfortable when working on concrete problems but their ability to consider more mature concepts and to apply a scientific problem-solving approach is increasing. Charts, maps and diagrams are more useful than in the past. Attention span continues to increase. Reading rates may be at the adult level. Problems of human relationships are of increasing interest. Desire for creative expression is growing.

Emotional and social development

Emotions are somewhat unstable. Daydreaming is common. Timidity and confusion may appear in social situations. There are rapid swings in mood. If ideals are properly presented, reactions are strong and positive. Hostility to adults may appear. Frustration may grow out of conflict with parents or peers. Anger and fears are common. The approval of their peers becomes more important and the approval of adults less important. There is a desire to conform in language, dress and in other ways. Hero worship is general. Friendships are mostly with the same sex. Interest in personal appearance is increasing and interest in the opposite sex is beginning. There is increased interest in team play and competitive games.

Health needs and desirable developmental experiences
The sickness ratio is low. Eyes, ears and teeth may require attention. Most children need nine hours of sleep. Difficulties with elimination may appear. Careful grouping in sports avoids activities beyond the strength of the child. Competitive games involving quickness and skill and only moderate fatigue or emotional stress are desirable. Sound group guidance is important. Students need practice in selecting an adequate diet, in leadership and followership, in improving body mechanics and in grooming.

DEVELOPMENTAL STATUS AND HEALTH NEEDS OF NORTH AMERICAN YOUTH

Ages 15–17 inclusive (grades X, XI, XII)

Physical development
Growth is nearing completion. Physical coordination becomes adequate. Strength increases rapidly. Controlled and graceful movement is possible. Posture is improving for most students. Appetites are heavy. Acne is a common emotional and health problem.
Mental development
Interest in the exact and behavioural sciences is expanding. There is increased interest in the opposite sex and in grooming. Emotional problems increase. The students possess increased capacity in organizing their own activities.
Emotional and social characteristics
Idealistic, inconsistent, sensitive and insecure. Resent restraints and orders. Need approval. The peer group is a dominant force. Boys enjoy sports; girls are interested in social organizations. Feel growing independence from parental rule. Critical attitude toward parents.
Health needs
Regular and vigorous physical exercise, competitive sports, coeducational activities, safety education, family life education, individual guidance and approval.

The organization of health education

What suggestions can be made to schools for providing coordination, direction and leadership in health education?

The reason that some plan for providing coordination and leadership is necessary lies in the high degree of departmentalization in the secondary school, in the desirability that teachers of several subjects shall contribute to health education, and in the possibility of developing health education in connection with student activities. The secondary school teacher does not have intimate contact with a small group of pupils as does the classroom teacher in the primary school. Physicians, nurses and dentists are less closely in touch with teachers. Social activities, student organizations, physical education and athletics have a larger place in the life of the student.

Some health curricula suggest that plans should be made by a staff or faculty health committee or by informal planning conferences and that some one person be given responsibility for programme coordination and promotion.

The faculty health committee, appointed by the headmaster, may be a subcommittee of an overall committee on curriculum. It varies widely in size according to the local situation. In small schools, it may consist simply of the principal, the teacher of health and one or two other persons. In large schools, its personnel is selected from a wider range, and may include, in addition to the principal and health teacher, such individuals as an instructor in science, social science, home economics, or physical education; school health personnel, such as physician, nurse, director of school lunches or the caretaker of the building; and individuals from outside the school, such as a health education specialist or other representative of the health department. Parents and students are often represented upon such a council or planning group.

A committee of such broad membership is able to plan for the desirable utilization of health services, for school sanitation, and extra-school activities in health instruction. Undesirable duplication in health instruction is avoided.

In many secondary schools, a health coordinator is named who is the teacher of health or some other faculty member who has the necessary interest, diplomacy, tact, cooperativeness, sympathy and social concern. The proportion of his time which the health coordinator gives to this activity varies widely. He usually assists the principal in organizing a school health committee and carries extensive responsibilities for its activities.

The health coordinator works with teachers, health personnel, attendance officers and others on problems of student health and behaviour. He helps in organizing and utilizing the services of the school physician to the best advantage, in arranging for special health examinations, in following through with medical recommendations, in the placement of students in special programmes, in checking limitations upon the extra-curricular activities of students, in investigating absence for illness and in assisting with the health activities of student groups. He aids teachers with materials and methods of health instruction and serves as the liaison between the faculty and the health services personnel.

3.2 Learning experiences

What educative experiences in health should be planned for the secondary schools?

As pointed out in the Introduction, learning experiences in health are found in healthful school living, school health services, health instruction, and school, home and community relations. While planned instruction in health will receive the major emphasis, curriculum committees may wish to consider, first, what suggestions can be made to make the student's day at school and his experience with school health services such that they will contribute to both his health and his health education.

Healthful school living

What suggestions does the curriculum committee wish to make for promoting healthful school living and student health activities?

As at lower grade levels, it is important that student life at school shall be healthful. Basic practices in hygienic living should have been established, but the maintenance of such habits is not always easy. If the student lives each day in a safe and sanitary school environment, where communicable disease control and other health problems are given proper attention, where interpersonal relations are sound and constructive, and where the daily regimen is hygienic, his day-to-day experiences help to strengthen the attitudes and habits which the primary school has sought to

establish. Both the education authorities and the students themselves have an interest in establishing those conditions and activities which will facilitate and promote healthful living.

Some characteristics of life at the secondary school level contribute to health while others tend to make health maintenance more difficult than in the primary school. Teacher–pupil relations and extra-school activities are on a more mature level.

ENVIRONMENTAL HEALTH

National or state curriculum committees may wish to suggest, either in the health education outline or in a separate publication, standards of equipment and operation regarding the provision of drinking water, food, hand-washing facilities, toilets, bathing facilities, refuse disposal, lighting, heating, ventilation, and seating. (See also p. 47, SCHOOL SANITATION IN LARGE URBAN SCHOOLS.) A local curriculum committee will usually be mainly concerned with the operation of such facilities.

SAFETY

You may wish to present suggestions for safety requirements in the school yard, in the school building, on the school bus or in travel between home and school, and in the sports in which students participate (this last may be carried in the physical education outline). Fire prevention and the use of fire drills are sometimes prescribed. The students themselves may accept appreciable responsibility for the maintenance of safe conditions.

DAILY SCHEDULE

There are many factors in the routine practices of the school which have an influence upon the physical or mental health of the student. National curriculum committees may wish to suggest, either in the health education guide or in a separate statement of school policies, what is considered desirable regarding:

The hours of the school day
The length of class periods
The time given to physical activity
The time allowed for lunch
Discipline
Promotion

Homework
Class size
Examinations
Grades and Reports

STUDENT ACTIVITIES

Many activities in the schedule of the secondary schools are suggested in various health education outlines as contributing to health education. You may wish to consider some of the following possibilities:

1. Homeroom programme

In the early years of some secondary schools, the students report to the same teacher each morning and use that room for study between other recitations. Where the schedule provides such a daily homeroom period, some curricula suggest definite health activities. The students commonly take responsibility for these activities and usually establish some form of organization such as a health committee, a health club, or a 'board of health'. They develop their own list of desirable health practices.

Homeroom activities have included the setting and maintenance of standards of cleanliness and neatness established by the students; the discussion of special health problems; a campaign for the more effective educational use of the school lunch; campaigns for securing dental corrections; a 'good breakfast' campaign; and campaigns to reduce the number of cases of the common cold.

2. Noon lunch

The noon lunch is a daily activity which can contribute to health education as well as to health maintenance. The lunch seeks to provide nutritious and wholesome food, prepared in the proper manner, to be eaten in pleasant surroundings, with attention to acceptable table manners and with enough time.

As an educational experience the lunch period should help the student to learn more about the sanitary handling of foods and the wise selection of food. The provision of a suitable lunchroom and menu will not in itself guarantee maximum learning experiences. Teachers of health, physical education and home economics use lunchroom experiences in teaching health and they cooperate with

lunchroom managers in setting up activities of educational value. The following activities are being used in some lunchrooms.

From time to time trays are checked as students go through the line and 'A1' cards are put upon the trays of students who have selected a well-balanced lunch.

Special lunches of appetizing and nourishing food combinations are sold at attractive prices.

Individual foods of high health value are sold at a low price.

Daily or occasional bulletins with lunch suggestions are issued.

If candy is served, it is put on the food counter after the students have gone through the line to pick up their lunches.

Some schools have had a no-candy week, a fruit day or a vegetable day.

Health foods or suggestions for a good lunch are shown on posters.

A standard lunch is served in some schools. It is not always popular; but it is a means of providing a lunch of maximum nutritional quality.

3. Student council activities

The student council in many schools has a health committee with a representative from each homeroom. This provides a link between the student organization in homerooms and the student organization for the school as a whole. These councils have undertaken such activities as the weekly inspection of student lockers and desks to encourage neatness; the enforcement of safety rules in the corridors, shops and gymnasia; cooperation in the lunchroom programme; campaigns for good nutrition; campaigns for the correction of physical defects; and the making of surveys on safety and sanitation.

4. Student assemblies

Health programmes at student assemblies are provided in the form of special lectures, health films, panel discussions of health topics and the presentation of health plays.

5. Newspapers

High school newspapers carry health news and timely information, editorials on health subjects, quotations from health department reports and health bulletins. Some papers carry a health column. Health surveys, contests, field trips and other activities are described.

6. Bulletin boards

Bulletin boards make a contribution to health education if space is assigned to the health class or student council and a plan is made for changing materials regularly. Health items which find a place on the bulletin board include posters, original sketches, illustrations, slogans, quotations, health publicity materials, newspaper clippings of health interest, and notations of progress in special health campaigns.

INTERPERSONAL RELATIONS

Healthful interpersonal relationships are developed in student counselling, in the close relationships between students and coaches in physical education and in sports, and in the operation of student activities.

Counselling on strictly health or medical matters is a function of the health services; but secondary school pupils sometimes need the advice of an adult in many non-medical but health-related situations, including relationships with parents, participation in athletics, social life in the community, boy–girl relationships, nutrition, and choice of a vocation. Curriculum committees may wish to suggest possibilities for providing the needed help. The health instructor, the physical educator, the coach, the teacher of home economics, the school nurse or the homeroom teacher may assist students if a plan is agreed upon and if students are encouraged to go to these faculty members for advice. On the other hand, the curriculum committee may wish to suggest that a capable individual be given a major assignment as health counsellor.

Health education through school health services

School health services, when they exist, seek to direct activities for communicable disease control, carry out health appraisal, aid in securing the correction of defects, and provide services or plans for emergency health care. It is important that teachers know what services are provided, in what ways school health personnel are available to help them with health problems, and how they can cooperate with health services.

From his contact with the health services of the school, the

student learns his own health status and needs and also the importance of medical and public health services. The curriculum committee is concerned with relating school health services effectively to the programme of general education and with making these activities educational for the student.

Teachers can be very effective in developing desirable pupil attitudes toward health services and in facilitating the operation of these services. The older students of the secondary school can understand the advice of physician, nurse and other health personnel and accept responsibility for carrying out medical advice in a greater degree than the younger children of the primary school. Nevertheless contact between school physician and parents is desirable, and teacher–parent–nurse–physician cooperation is often needed. A sample health record form is included in many curricula, to make clear the scope of the health examination.

In the health education outline or in a separate bulletin, the curriculum committee or the health committee of the individual school may wish to provide information to the teaching staff with respect to such items as the following:

1. Information needed by the teacher for his part in the control of communicable disease, including a chart giving early symptoms and facts regarding exclusion, incubation period and re-entry of pupils.
2. Information as to which students are to receive medical examination. (Such examinations may include all the students in one of more grades, students returning to school after illness, students transferring to this school from another school, students who are failing in their studies, students with symptoms of contagious disease, students found by the teacher to be defective in vision or hearing, students who are continuously losing weight or appear malnourished, students who have been exposed to tuberculosis in the home, and students who are to participate in competitive athletics.)
3. Information as to when the physician visits the school.
4. Information as to the nature and availability of health records.
5. The availability of physicians, nurses or other health personnel to talk to pupil groups or parent groups.
6. The availability of physicians and nurses for helping teachers with individual pupil problems.

7. The availability of other health specialists, if any.
8. Procedures in screening for hearing and vision.
9. Procedures in promoting the correction of physical defects.
10. Facilities and procedures for emergency care.
11. Hours when the nurse is in the school for dispensary services, and what the dispensary service includes by way of treatments, dressings, emergency care and inspection of children returning to school after exclusion.
12. Any special services which may be available for exceptional children.

Health education through health instruction

The curriculum committee will plan when, where, how and what health instruction will take place. Such instruction is especially important for students who are not going on to college or university. The size of the published curriculum will depend upon the detail in which lesson plans or health units are presented. The health committee of the individual school and the health teacher will probably modify any general curriculum to some extent as they work out detailed plans for its presentation.

ORGANIZATION

What are the more common plans for organizing health instruction in the secondary school?

Health-related subject matter is certain to be presented in several subjects. Physical education, basic science, social science and home economics, provide major opportunities for teaching health. Teachers of such subjects are usually encouraged to bring out health relationships. Too much should not be expected from incidental health references; but well-organized units in health can be developed in other subjects of instruction in a way to be of great value, if the instructor is adequately equipped and interested.

In general, experience has been unsatisfactory in attempting to provide complete and adequate health instruction in the secondary school by using other subjects alone. Health instruction through them can strengthen and fortify the pupil's learning experiences, but according to most reports on this subject it cannot take the place of direct instruction in health as a separate subject.

There is need for a course in health to draw together the contributions of related areas and present the important health subject matter in a unified and forceful manner.

Different curricula present health courses in different school years and with different kinds of organization. Some curricula have spread instruction in health and safety over most of the six years of the secondary school with one class meeting per week. General opinion, however, favours more concentrated instruction and reflects dissatisfaction with the attempt to present the subject matter in a course which meets so infrequently. National committees in the USA, for example, have recommended that health be taught daily during two of the six semesters of grades VII, VIII and IX, and also during two semesters in the last two years of secondary school.

In the earlier years of the secondary school (grades VII, VIII and IX), curricula commonly centre instruction around physiology and hygiene, first aid, and community health. In the later years of the secondary school, health instruction centres to a greater degree upon the health problems of youth and adult life. Such a health problem course in the eleventh or twelfth grade is of special importance to young people who are preparing for employment, home making, parenthood and citizenship.

SUBJECT AREAS

What are the areas of instruction commonly included in health courses in the secondary school?

It may be helpful to curriculum committees to see a list of the subjects of instruction found in secondary school health curricula. The scope of the different topics varies and the subtopics listed below are distributed differently in different outlines. The following pages do not suggest what should be taught in secondary schools of any specific country, district, or community. The choice will be based upon the important health problems and health needs of the students involved, upon the available time and facilities and upon the beliefs and practices which may need to be changed.

There follows an inclusive list of major subjects and minor topics found in health curricula, designed for grades VII, VIII and IX, and a separate list of topics found in curricula for grades X, XI and XII. It is not suggested that all of the topics should be taught at both levels. What is actually taught at each of the two

levels will depend upon plans for health instruction at the other level and upon the extent to which major topics are included in both courses. These lists are inclusive and are not proposed for adoption *in toto*. They are for use in selecting the topics your committee decides to propose. The sequence of subjects as listed here is not significant. The reader will find some subtopics repeated under different major subjects.

Areas and topics of instruction in health curricula for grades VII, VIII and IX

1. The care of the body (based on an elementary knowledge of structure and function of the human mechanism)

The digestive system, the circulatory system, the sense organs, the nervous system, the excretory system, the skin, physiological development related to adolescence, growth patterns, individual differences.

2. Food and nutrition

Food and growth, food groups, food values, adequate diet, food selection, the handling and care of food, preservation of foods, habits of eating.

3. Hygienic regimen (health maintenance, or healthful living)

Exercise and rest, sleep, study, relaxation, recreation, the use of leisure time, values of physical activity, individual health needs, daily schedule.

4. Mental health

Emotions, understanding oneself, personality, getting along with others at home and at school, accepting reality, interrelationship of physical, emotional and social factors, personal appearance, grooming, posture.

5. Communicable diseases

The cause, transmission and prevention of the most common communicable diseases.

6. Health protection

Health examinations, correcting defects, alcohol, tobacco, narcotics, dental care, care of the sense organs, dangers of self medication.

7. Education for family living (familial hygiene, or family-life education)

Instruction in this area varies sharply between different countries. This is because family structure and the authority within the

family varies; and because beliefs vary as to what should be taught to young adolescents. Most curricula emphasize the importance of the family, the relationships within the family, the care of children, and the care of the sick. Differences in instruction are found in what is taught regarding maturation, sex hygiene, population growth, boy and girl relationships, and social customs of engagement and marriage. In some countries extensive instruction is given in those matters; in other countries, very little is given. Curricula recognize that health instruction in this area must be carefully related to the customs and culture of the people, and so organized and put into operation as to meet the approval of parents and society.

8. Safety

Safety at home and at school, safe transportation, safe recreation, bicycles, steps in the prevention of accidents.

9. First aid

Here the Red Cross Course is often used. The instruction covers such topics as bruises, cuts, burns, fractures, stress, dislocations, sunstroke and heat prostration, sunburn, frostbite, fainting, electric shock, poisons, snake bites, insect bites, foreign bodies in eye, nose and throat, nosebleed, drowning and suffocation.

10. Home nursing

The Red Cross Course is often used. Topics cover the selection and care of the sick room, bed making, care of the sick, feeding the sick, medicines, treatment, communicable diseases, convalescence, household emergencies, 'mothercraft' or 'homecraft', and the care of the infant.

11. Community health

Food control, safe water supply, waste disposal, air pollution, housing, work of health authorities, health at school, community safety.

12. Occupational hygiene

Hygiene related to the kinds of occupations which most students will enter.

Areas and topics of instruction in health curricula for grades X, XI, and XII

1. The human body in health and disease

Normal functions of the systems of organs. Defects and diseases

of these systems. Endocrines and hormones. Abnormal function. Hygienic practices.

2. Hygienic regimen

Individual health needs, sleep and rest, recreation, exercise, body mechanics, study, daily schedule, grooming, dress.

3. Mental health

Emotional maturity, stress, intelligence, personality adjustment, social relationships, emotional disorders.

4. Familial hygiene

Family living, child care, heredity and eugenics, choosing a mate, preparing for marriage, marriage and the establishment of a home, housing, medical care for the family, dental services, needs and costs of health maintenance. (Here, as in teaching outlines for the earlier years of the secondary school, there are wide differences in different countries as to what is taught.)

5. Communicable and non-communicable diseases

Consideration of the most common diseases in the area, their cause and prevention with special reference to the communicable diseases and such organic diseases as cancer, heart disease, diabetes, alcoholism, and mental illness.

6. Safety

Community programmes of accident prevention, work accidents, home accidents, public accidents, safety in sports and recreation, fire prevention, disaster relief, emergency care, school safety, distribution and cost of accidents, automobile driver training.

7. Food needs and digestive hygiene

Nutritional needs, metabolism, vitamins, carbohydrates, fats, proteins, meal planning, food values, nutritional deficiencies and diseases, school gardens and the cultivation of desirable foods, food conservation, food preservation, food adulteration, food sanitation, food additives, digestive hygiene and digestive disorders, diarrhoea and other intestinal infections, indigestion, colitis, appendicitis.

8. Consumer hygiene

Expenditures for health, adequate health care, fads, quackery, consumer protection and truth in the advertising of health products, sources of information about health, distribution of health expenses, insurance against sickness and accidents, the evaluation of advertising appeals.

9. Community health
Water supply, waste disposal, drug control, radiation, air pollution, insect control, rat control, governmental health agencies, voluntary health agencies, individual responsibility for community health.
10. Careers in health
Consideration by students who are in a position to go on to professional education of such professions as medicine, public health, dentistry, nursing, teaching, nutrition, dietetics, hospital administration, occupational therapy, physical education, laboratory services. There may be consideration of the health aspects of other professions such as law, the clergy, journalism, architecture and the arts.

The topics listed above are taken from curricula planned for general secondary schools. There are various special schools and special programmes which need adapted courses of study. Some developing countries have mentioned the importance and value of the 'écoles ménagères' and their special preparation for home making. Agricultural schools and other vocational schools which prepare boys for specific occupations may need their own outlines. It is not possible to consider here these various special situations.

METHODS

What methods of instruction are most commonly used?

Some health courses are reported by pupils to be more interesting than any other subject in the secondary school. Other courses are reported to be without any interest. Here, as in any subject, pupil interest varies with the quality of the instruction. The teacher who is well grounded in his subject finds health teaching to be great fun; for the inadequately prepared teacher it is a rather awesome experience.

Textbooks are usually used and their quality and approach are of the greatest importance. (See Introduction, 0.8.) Curricula urge the study of practical problems with application to current situations. Pupil interests as well as pupil needs are given consideration. An increasing number of careful studies are now appearing for the determination of pupil interests in health.

Some curricula present teaching plans lesson by lesson, but the

majority of them organize instruction in teaching units, each covering several lessons. We have discussed the organization of units of instruction (see p. 63, HEALTH INSTRUCTION IN URBAN SCHOOLS) for use in the grades below the secondary school. The units suggested in secondary school curricula are usually similar in plan, consisting of a clear statement of:

Objectives, which indicate the knowledge to be acquired and the attitudes and health practices to be affected.

Approaches, which relate the interests and present knowledge of the student to the new area of knowledge to be explored.

Content and procedures, which break down the subject into its natural subdivisions and indicate how the topic is to be explored, investigated or studied and suggest desirable student or class activities.

Resources and reference materials, which suggest references, visual materials and other sources of information.

Evaluation, in terms of understanding, new knowledge, and the effect upon attitudes and health practices.

Outlines for health instruction vary not only in nature but also in the amount of detail presented. Some state briefly the subject matter to be covered and leave to the teacher the development of teaching methods. Other outlines suggest a variety of activities either in plans for teaching units or in a separate discussion of methodology.

Some of the suggested teaching methods may be briefly described:

1. The class is sometimes organized into *committees*, which investigate different phases of the subject. They report to the entire group and discuss their findings with them. Sometimes the committee serves as a panel of experts who discuss their findings among themselves and answer questions from other members of the class.
2. A modified committee organization is used in which the class is divided into small '*buzz groups*' of about six pupils each. Each group discusses one question for a few minutes and reports its conclusions to the class.
3. The class uses *experimentation or special study* of some type. It may, for example, study standard tests for posture, vision or hearing, or determine changes in heart rate when lying down and after brief exercise. It may carry on a longer study like that of the

local health authority, or it may study the differences between carbohydrates, hydrocarbons and proteins. Experiments having health implications which the students have enjoyed in biology, physics or other subjects are sometimes reported and discussed in the health class.

4. The health class sometimes arranges for an expert in some field of health or safety to be a *speaker* at the assembly or at the class meeting.

5. *Field trips* are arranged to health departments, clinics, water purification plants, hospitals, food markets, public health laboratories and other places. Where classes are too large for field visits, committees are selected to make the visit and report to the class as a whole.

6. Films, film strips and other *visual and audio-visual aids* are selected by the teacher or the students from lists made available to the school or supplied upon request from a national or state health education centre.

7. *Dramatization* of two types is used. Some health plays have been developed especially for youth of secondary school age and are presented as a cooperative activity between the class in spoken language and the health class. The other type of dramatization is role-playing or extemporaneous improvised drama, presenting what the students, each assigned a specific role, believe would be said in a well-described situation.

8. *Demonstrations* and *exhibits* are sometimes prepared.

9. Students in the health class are sometimes asked to write *health autobiographies*. In doing this the student reviews his own health experiences, interests, strengths and weaknesses and relates the importance of health to his plans for the future.

10. Many secondary school curricula emphasize the use of individual *health appraisals*. When such appraisal is used at the beginning of a health course, it has the value of relating health instruction to the health needs of individual students. If there is a health programme in the homeroom, health appraisal may take place there at the beginning of the year. The curriculum committee may wish to include in the curriculum a blank form for health appraisal, or it may prefer to give suggestions which will help the teacher and the students to prepare their own appraisal form. Forms for personal health appraisal usually ask specific questions, answerable by yes

or no, relating to appearance, health practices and freedom from defects. They cover a variety of structures and conditions, such as skin, hair, nose and throat, mouth and teeth, posture, nutrition, eyes, hearing, immunity, and mental and social health.

The following are examples of different types of questions:

Under 'posture':

a. Do I stand correctly? (Head well back, chin in, shoulders level, arms relaxed, chest the part of the body furthest forward, back straight, abdomen flat, weight mostly on the balls of the feet.)

Under 'appearance':

a. Is my hair clean?

b. Does it have lustre?

c. Is it well kept?

CORRELATIONS

Curriculum committees may wish to suggest possibilities for correlation. Teachers of the various subjects which can contribute most to health instruction will be represented on faculty health committees of individual schools in order to plan for such correlations. The following suggestions for the teaching of health through other subjects are taken from several different curricula.

Physical education

The contribution of physical education to physical and mental health, personality and character has long been recognized. Its body-building activities develop stamina and neuro-muscular coordination. Success in the activity programme is one measure of physical capacity, and the desire to succeed is an outstanding motivating force and stimulus to secondary school students in the development of intelligent health habits. The effective teacher of physical education finds and uses many opportunities to contribute to the health attitudes, habits and knowledge of the student through both class instruction and individual contact.

Physical education provides opportunities for learning experiences in the importance of exercise, in group leadership, in the wholesome use of leisure time, in showing the incompatibility of tobacco, alcohol and narcotics with sports competition, and in pointing out relationships between adequate nutrition and athletic capacity.

Safety relationships are important in physical education and

safety precautions are effectively taught in relation to the different sports. The student's relationships to the instructor in physical education or to the director of athletics, provide opportunities for individual health guidance. The student learns to like individual sports and develops sufficient skill in some activities to guarantee their carry-over into after-school life.

Biology

Not all secondary school students take biology, but this subject often makes an important contribution to health education. Life processes based upon the structure of the body are studied. The student investigates growth, nutrition, respiration, movement, fatigue, reproduction and response to stimuli. He learns the nature of cells, protoplasm, food elements, harmful micro-organisms, immunity, disinfection, and sterilization. He studies insects as carriers of disease, and the ecology of plants and animals useful and harmful to man. Some countries, Mexico is an example, have developed biology courses which are very rich in health content.

Physics

Health relationships are developed here in relation to temperature and humidity, ventilation and heating, body movement, electrical hazards, uses of atomic energy, light, sound and radiation. Current interest in new developments in the exploration of outer space lead to many health considerations.

Chemistry

Chemistry deals with such health-related topics as air pollution, the chemistry of living matter, the use of oxygen in the body, conversion of sea water to fresh water, drugs and cosmetics, urinalysis and other chemical diagnostic procedures.

General science

In the early years of the secondary school students may find in general science the kind of learning experience we have indicated as possible in the biology, chemistry and physics of the later high school years.

Social science

Public health activities, including sanitation, mental health, disease control, maternal hygiene, infant welfare and health education are often studied in social science units. The work of local, state, national and international health organizations is considered. Here also is an opportunity to study medical care, the relationship

between transportation and health, industrial health, civil service, community planning, choice of vocation, health aspects of occupations, safety problems and civic responsibility.

Language

Health relationships may be developed in connection with selected reading. The lives of scientists in the field of health, the health status of characters in novels, and other health topics are used in panel discussions, socio-drama, oral reports and debates. Health subjects are assigned for themes or 'feature stories' for the school newspaper. We have mentioned role-playing and the presentation of health plays as cooperative activity between the speech department and the health class.

History

Students consider the influence upon world health of such inventions as the microscope, the automobile, the aeroplane, refrigeration and electricity, or the significance of research in fluoridation, vitamins, vaccines and insulin or the effect of war or industrialization upon health.

Mathematics

Mathematics may be related to health in connection with the health budget, disease incidence, sick absences, population increase, morbidity, accidents and mortality rates.

Home economics

This subject provides valuable health instruction for girls in connection with food preservation, laundering, menu planning, food sanitation, the care of clothing, the relation of clothing to weather, the hygienic quality of different items of clothing. Major consideration is given to nutrition. Some courses in home economics include units in home nursing and child care.

Health education related to school, home and community relations

Fewer activities in school, home and community relations are mentioned in courses of study and reports relating to the secondary school than in similar documents relating to the primary school. The more mature students are less dependent upon parents for health guidance. They have greater independence in their school and community relationships.

The kinds of school–parent organizations mentioned in 2.4 (Urban areas) exist to some extent (see p. 76). The direct participation of students in extra-school organizations has increased and it is important for the secondary school to participate in community-wide programmes of health education. Curriculum committees may wish to consider whether they should make suggestions regarding any of the following relationships:

1. Mutual participation of school authorities and health authorities in community health projects.
2. School participation in any community health council, or similar organization which may exist.
3. Health aspects of competitive interscholastic athletics.
4. Student participation in athletic or other youth organizations outside the school.
5. Arrangements for hospitals and voluntary health organizations to provide educational and service opportunities.
6. The development of student Red Cross Societies or other health societies with community relations.
7. Any other relationships with either parents or community organizations which may seem desirable in the school system for which the health education curriculum is being prepared.

4 Planning for student health and health education in teacher training institutions

RESPONSIBILITY FOR planning the programme of teacher preparation for health education rests upon several persons and groups. General standards and policies are set by the Ministry of Education or comparable education authority. The provision of health services may be in the hands of the Ministry of Health. Overall general planning for student health and health education is carried out in several countries by a national joint committee on school health and health education, representing both education authorities and health authorities.

It is clear that some general policies must be set by government agencies. It is equally clear that much detailed planning must be done locally. The president of a teacher training institution has administrative responsibility for the health of his students and for the effective operation of all phases of the educational programme, including education in health.

Brief comment will be made later concerning the preparation of the health teacher in the secondary school; our chief consideration here is the professional preparation of the primary school teacher for health education. What health functions is it desirable he should carry out? What attributes will his preparation in health education help him to attain? What are the objectives of teacher preparation in health? Who will plan and coordinate the health education programme in the teacher training institution? What learning experiences should be provided?

4.1 Teacher training institutions

Teacher training institutions may be divided into three broad categories on the basis of the educational level at which they operate.

There are still some schools in the rapidly disappearing group of teacher training institutions which operate at the lower secondary school level. Their students come to them directly from six years of elementary school and stay for two or three years.

A larger number of teacher training institutions require nine years of general education for admission and operate at the upper level of the secondary school, with a two- to four-year programme representing grades X and XI or X to XIII inclusive.

Institutions of the third group require a secondary school background and accept students only after the completion of the eleventh or twelfth grade. These teacher colleges require two, three, four, or five years of study. Colleges with a four-year programme usually give a degree in the field of education, accompanied by a teaching certificate. Some teachers prepare for teaching by taking a four-year programme in liberal arts and a further year of specialization in education.

4.2 Functions of the teacher in health education

What can the classroom teacher do to contribute to the health education of pupils?

In previous chapters we have discussed the programme of health education in schools in terms of healthful school living, school health services, health instruction, and school, home and community relations. Let us look at each of these phases of the school health programme and see what teacher activities have been suggested in various courses of study.

HEALTHFUL SCHOOL LIVING

Various health curricula suggest that the teacher should:

1. Cooperate in maintaining hygienic and sanitary working conditions at the school.
2. Recognize safety hazards at school and assist in developing safety practices.
3. Cooperate in fire drills, if they are held.
4. Help to develop sanitary conditions and protective practices with respect to water supply and waste disposal.

5. Develop teacher–pupil relationships which will provide a pleasant classroom atmosphere, free from fear and tension on the part of the pupils, in order that productive learning may take place.
6. Recognize and help to resolve individual differences between children.
7. Maintain cooperative interpersonal relations with administrators, colleagues, and parents, as well as pupils.
8. Help to organize the school day for the pupil with due regard to fatigue, physical and mental abilities, interest span and health status.
9. Weigh and measure pupils or supervise the children in doing so (primary school).
10. Observe children daily for health status (primary school).
11. Help to maintain sanitary and hygienic conditions in the conduct of the school lunch.
12. Organize brief relaxation periods where necessary (primary school) and alternate periods of activity and quiet work.
13. Supervise organized play (primary school).

SCHOOL HEALTH SERVICES

School health programmes suggest that the classroom teacher should:

1. Understand and participate effectively in the programme for the prevention and control of communicable disease, including exclusions and readmittance to school.
2. Prepare children for health examinations and other school health services by developing proper understanding and attitudes on their part.
3. Participate in the health examination of pupils in accordance with school policy.
4. Understand and carry out effectively any screening procedures assigned to them, such as tests for vision and hearing.
5. Help to interpret health appraisal in order to make it a fruitful learning experience for the pupil.
6. Help to maintain adequate pupil health records and safeguard the private information they contain.
7. Cooperate effectively with whatever health specialists serve the school (physicians, dentists, public health nurses, dental hygienists, psychologists, nutritionists, social workers).

8. Observe deviations from normal health and refer children to nurse and physician as needed.
9. Understand and use community health resources to meet the health needs of individual pupils.
10. Follow school policies in excusing pupils from school for medical, dental or other health reasons.
11. Understand the functions of school physicians and school nurses and use their help effectively.
12. Participate appropriately and effectively in the follow-up programme for the correction of physical defects.
13. Work effectively and in accordance with school policies in health emergencies or accidents.
14. Carry out such first aid activities or emergency care as may devolve upon the teacher.
15. Work effectively with the school health council or other group in the planning, strengthening and conducting of school health activities.

INSTRUCTION IN HEALTH

Existing curricula suggest that the teacher should:

1. Use a variety of suitable learning experiences adapted to the developmental levels of pupils.
2. Consider the health interests and health needs of children in developing instruction.
3. Select and use suitable available teaching materials and resource personnel.
4. Develop health instruction with the problem approach and with emphasis on health behaviour.
5. Evaluate health instruction appropriately in terms of knowledge, attitudes and behaviour.
6. Utilize pupil experiences in healthful school living and in relation to school health services to provide some of the health teaching content.
7. Use pupil, family and community health problems as a part of health instruction.
8. Develop suitable motivation toward healthful living.
9. Develop helpful correlation as a part of health instruction.
10. Use incidental health teaching in special situations.

11. Keep abreast of new developments in health and in health education.
12. Help to develop an appreciation of reliable sources of health information.
13. Furnish an example of healthful living.

SCHOOL, HOME AND COMMUNITY RELATIONS

Existing curricula suggest that the teacher should:

1. Assist in interpreting the programme of school health and health education to the home and in developing parent–school cooperation.
2. Participate appropriately in programmes of health education, community health and community development.

4.3 Health education values

From the standpoint of the teacher himself and his professional qualifications, preparation in health education has many values:

1. *Education in health is a proper part of a broad, general cultural education.*

It is related to the mode of living of the individual, and his family. It is also related to citizenship, culture, government and ethics.

2. *Health education helps the teacher in developing and maintaining his own health.*

Students in preparation for teaching, like other young people, have their health problems and interests. They are eager to learn more about mental health, nutrition, disease control, the hygiene of the family and the health of the community. They are ready to give objective consideration to existing prejudices and superstitions about health. Emotional problems are numerous and accidents are common. Work schedules and play schedules are likely to be unbalanced. Upper respiratory infections are numerous.

The teacher needs to build sound or optimal personal health as he enters the profession, because teaching is an occupation which produces a high degree of nervous fatigue. The teacher must continually adjust his thinking to what is going on in the mind of the pupil. Teaching a class for several hours a day, with the required continuous mental alertness, is inevitably an exhausting

experience. The teacher needs to appreciate his own health requirements and know how to meet them. Occupational hygiene for him involves suitable exercise, enjoyable adult recreation, intelligent personal health practices and stimulating social contacts.

3. *The preparation of the teacher in health education helps him to understand the child, physiologically and emotionally.*

The understanding of children is basic to his professional efficiency. It is an essential requirement of his profession.

4. *With preparation for health education the teacher can better serve the individual child.*

Teachers have always been concerned about the well-being of their pupils. They know that pupil health, as seen in freedom from hearing defects, vision defects, fatigue, malnutrition and frequent sickness, is related to educational progress. Teaching is more interesting when the instructor helps the individual child effectively.

5. *A knowledge of the school health programme helps the teacher to work effectively with other members of the school staff and to contribute more to the community as a citizen.*
6. *The teacher who understands the health problems of children can collaborate with the home more effectively.*
7. *Preparation in health education helps the teacher to meet the expectation of society, that he will help to develop the attitudes, habits and knowledge in the field of health which are needed by the rising generation.*

The teacher is the person most skilful in organizing learning experiences and he is the one person, besides parents, who is with the child long enough each day to guide habit formation. His intelligent participation in the health education of children is necessary for its success.

4.4 Objectives

A consideration of such needs and values as have been stated above led the Joint WHO/Unesco Expert Committee on Teacher Preparation for Health Education[1] to suggest that:

'The principal objectives in teacher preparation for health education are to develop:

1. a standard of personal health practices which will help to

1. WHO Technical Report series, No. 193.

maintain the health of the individual and serve as an example to pupils or students;
2. understanding and skill in maintaining an optimal emotional environment through desirable inter-personal relations;
3. an appreciation of the value, importance and place of education in health as a part of the total educational programme;
4. a willingness to play an appropriate part in the promotion of health in the school and in the community;
5. an adequate background of professional knowledge about child growth and development, personal and community health, and programmes and procedures in school health;
6. understanding and appreciation of a healthy physical environment and how it is maintained;
7. skill in promoting health education and in working cooperatively with others in this sphere;
8. a knowledge of community health and social agencies and the ways in which the teacher may work properly and effectively with them and with the home.

4.5 The planning and coordination of health education

At the beginning of this chapter we mentioned the establishment of basic policies at the national or state level and the growing tendency for education authorities and health authorities to cooperate in this planning. We also mentioned the frequent use of a faculty health committee in the individual institution. In the smaller schools this is a small committee. In the large teacher training institutions such committees include several of the following persons: a dean or other representative of the administration; the college physician; the college nurse; teachers of biology, physical education, home economics, psychology, and chemistry; and the superintendent of buildings, dormitories or lunchrooms. Where such a committee or council exists, it formulates general policies and has the special responsibility of deciding what health instruction is to be given. It makes its specific recommendations to the president, the faculty or the curriculum committee.

Many programmes report the establishment of a student health

council, with or without staff representation. This small group of students, selected by the student body, seeks to mobilize student action in helping to solve health problems. It is an intermediary between the students and the administration. Such a committee meets periodically, usually with a member of the health service staff, for a discussion of current situations related to health.

An increasing number of the larger teacher training institutions are placing special responsibility for the promotion and coordination of the programme in the hands of an instructor or professor of health education. He gives instruction in the field of health and health education, and his or her professional preparation is comparable to the preparation of professors of other subjects in their respective fields.

The Joint WHO/Unesco Expert Committee on Teacher Preparation for Health Education says:

'It is desirable that one person in each teacher training institution should be responsible for the coordination of courses and activities in health education. In many institutions this function of coordination may be undertaken by a staff member with previous training and experience in such fields as education, psychology, physical education, home economics, medicine and biology. Persons assigned this responsibility should preferably have professional preparation and experience in health education and in the principles and practice of school and community health. In addition, they should have leadership capacity and a real interest in the health education of teachers . . .

'A few countries have already recognized the need for a professional corps of specialized workers to serve as professors and coordinators of health education in teacher training institutions. In these countries programmes of graduate study now exist for the preparation of such persons.'

This graduate study is built upon a sound foundation of the basic sciences, the social sciences and education. It equips the individual for instruction in all phases of health and health education.

4.6 The health education programme

Healthful living while in training, contact with student health services, courses of instruction in health, and practice teaching all contribute to the preparation of the teacher for his work in health education. We shall discuss the activities found in the more advanced programmes of teacher education, realizing that one of the best ways of planning what *can* be done is to select activities from a list of the things which would be desirable, if possible.

Healthful living

What plans will help to guarantee healthful living on the part of the student?

The health practices of future teachers are influenced by the mode of living and health experiences provided in the teacher training institution, as well as by the study of hygiene. Healthful living and health instruction should go hand in hand.

Living conditions in different teacher training institutions vary widely in nature and in quality. Several problems are common to all institutions, although the solutions of many of them are quite different in different parts of the world. All programmes seek to have the student live healthfully and to learn from that experience. Although it is not possible here to set standards applicable in different situations, it is possible to indicate the areas where planning needs to be done.

Planning groups may wish to consider how to provide for:

1. A sanitary and safe school plant

In addition to such standards of building construction as may be set by health authorities and education authorities, the faculty health committee may wish to establish sanitary procedures with reference to the operation of food service, water supply, waste disposal, swimming pools, lighting and ventilation, and with reference to housekeeping in classrooms, gymnasiums, libraries, laboratories, offices and rest rooms. Special plans may need to be made for insect and rodent control, for fire prevention and for safety.

2. Sanitary housing

Housing need not be luxurious but it must provide the essentials

of environmental health. If all students are housed in dormitories or halls of the institution, the sanitation of their quarters is under immediate administrative supervision. Careful standards need to be set when dormitories are planned and attention needs to be given to equipment and maintenance.

Many teachers in training are housed off the campus. In such situations the faculty, through its health committee, may wish to set standards for rented rooms with reference to such items as floor space, closet space, bathing and toilet facilities, bed linen, lighting and ventilation, house cleaning, the reporting of illness and the availability of first aid facilities. Definite procedures for the periodic inspection of premises are sometimes established.

3. The maintenance of adequate nutrition

This may involve one or more of the following procedures:

a. Provision of student eating facilities where meals are planned with reference to nutritional value, prepared and served in a sanitary manner, and where a sufficiently long lunch period is provided.

b. The provision of information on nutrition and food selection or preparation for students who select their own food in a cafeteria or outside the college, or who are doing light housekeeping and preparing their own food. Many of these students are away from home for the first time and food selection for adequate nutrition is new to them. Sometimes consultation service in nutrition is provided for students, for boarding houses and for restaurants.

4. The provision of adequate physical activity and physical education

Exercise is essential for health maintenance. Physical education provides relaxation from the study programme, release from emotional tensions, and an opportunity for self-expression. The student practices leadership and learns to adapt to groups. From physical education prospective teachers get skills which will lead them to good habits of adult recreation and also prepare them to direct the play of their pupils.

Physical education programmes also make provisions for individual corrective exercise where it is needed. A balanced programme may consist of team sports, gymnastics, aquatics, camping and other activities.

5. The provision of adequate social and recreational activities

Recreation and suitable social activities provide enrichment in daily life and contribute to the satisfactory adjustment of the

student. They act as a substitute for less desirable forms of activity. Both time and facilities are needed. Faculty health committees plan ways to facilitate such activities as sports, clubs, dramatics, social dancing, arts and music.

6. *The provision of adequate facilities and a suitable climate for work at school*

Many faculty health committees have planned suitable, well-lighted, properly ventilated rooms, where students can study or read, and other rooms where they can enjoy music. The adaptation of library and laboratories to effective use is important.

7. *Limitations of the work schedule*

Some limitation may be desirable with respect to the number of courses a student may be allowed to carry and the amount of extra-school work or employment he is allowed.

8. *The consideration of student health in planning assignments and examinations*

Some faculties have set definite policies regarding such items as work assignments in relation to the time the student has for the course; for the provision of enough examinations to measure student achievement effectively; for the allotment of time for final examinations; for the adjustment of work following absences because of illness; and for checking student health following sickness.

Contact with health services

What plans should be made for student health services?

An important African educator writes: 'It is important to have medical supervision if at all possible, even in developing countries.' The contact with the student health service tells the individual his own health status and gives him valuable learning experiences concerning the importance and use of medical care. When we consider what is done by way of health services, their educational and health values become apparent.

Nevertheless, although most teacher training institutions are in the vicinity of a city, many are still without their own student health service. In these situations, the institution concerned may wish to consult with the appropriate health authorities to ascertain how it may be possible:

1. To secure desirable immunizations and assistance in other measures of communicable disease control.

2. To secure the examination of prospective students for communicable disease and serious physical defects before admission. (The institution or the government authority may wish to prepare and make available its own record form for this examination.)
3. To provide screening tests for vision and hearing.
4. To develop plans for promoting the correction of such physical defects as are discovered.
5. To provide for first aid, at least in minor emergencies.
6. To provide for hospitalization or medical care in cases of acute illness and for notification of the family.

In an increasing percentage of institutions, some form of student health service is available. It may be a part-time physician, a nursing service with a physician on call, an infirmary, an alliance with a local hospital, or (in the case of large teacher colleges) a school health service with a resident staff.

With adjustment to whatever facilities are available, education authorities and health authorities may wish to consider such items and possibilities as the following in planning student health services:

1. The establishment of physical and mental health requirements to add to evidences of academic ability as a basis for accepting or excluding applicants for admission.

Health records, as well as scholastic records and previous social experience, are properly involved in selecting those students who are mentally, physically, emotionally, socially and morally suited to enter the teaching profession. A careful medical examination is usually required and some schools give personality tests and aptitude tests. We find such health requirements as the following:

a. Sufficiently sound general health, vision and hearing to enable the individual to discharge satisfactorily the duties involved in the teaching position to which he aspires. Minor health limitations, such as moderate skeletal defects, allergies, or slight heart damage, are not usually regarded as a basis for refusing admission; but defects which are already so serious as to interfere with the teaching schedule or defects which will eventually cripple the individual and incapacitate him for teaching, are cause for rejection. Some requirements state that students who develop tuberculosis, marked heart damage or grave mental instability are not allowed to continue.

b. Mental stability within the ranges considered to be normal.
c. Freedom from tuberculosis, or other chronic communicable disease.
d. Acceptable physical appearance, personality, and normal speech. Reasonable standards are involved here. The criteria would eliminate students with grossly disfiguring disabilities, unclean personal appearance, unsocial attitudes and serious speech defects.
2. The preparation of health examination record forms.
3. Agreement upon the procedures in health examination with reference to its scope, the medical and other health specialists who will carry out the health appraisal, the provision of adequate time, and the handling of adequate health records.
4. Provision for orienting the student in advance of the examination concerning the nature of the health appraisals at the school and the provision of health advice in connection with them.
5. Establishment of relationships with public health authorities to provide for desirable immunization and communicable disease control.
6. Decision as to the frequency of health examinations for students.
7. Provision of screening tests for vision and hearing, either in connection with more general health appraisal or separately.
8. Decision as to what clinical services will be provided.
9. Provision for the hospitalization of ill students.
10. The establishment of a plan for health service fees or for health insurance.
11. The establishment of facilities for isolation in case of communicable disease.
12. Provision for the transportation of students acutely ill.
13. Provision for adequate sanitary supervision, either through the cooperation of the local health authorities or through the student health service.

Sanitary supervision in different teacher training institutions is found to include such items as:
Adequate sanitary control of food handling.
Regular inspection of eating places operated by the school.
Inspection of drinking fountains or other methods of distributing drinking water.
Inspection of toilets.

Instruction of food handlers.
Supervision of proper screening, lighting and ventilation.
Checking of adequate refrigeration.
Checking the sanitary quality of the drinking water supply.
Adequate disposal of garbage.
Rodent and insect control.
The provision of adequate sanitary toilets and sewage disposal facilities.
Inspection of housing facilities.

14. The provision of adequate counselling service.

Advice is given by the medical staff concerning physical defects or illness. In addition, counselling service is provided in many institutions for departures from mental health as reflected in depressed moods, home-sickness, quarrelsomeness, withdrawal, periods of serious irritability, tensions, or aggressive behaviour. Academic failure, a lapse of moral standards, a consistent breaking of rules or serious conflicts between student and faculty should also be a basis for counselling in the field of mental health. Student counselling is also needed for problems such as financial difficulties, marital or premarital problems, vocational guidance, and how to study. Although this counselling is usually carried on outside the medical department, contact with the student health service is maintained.

Instruction in health and health education

What instruction is desirable to help teachers acquire the necessary competence in health education?

It is inevitable that instruction in health and health education should vary widely in teacher training institutions according to whether the instruction is at the secondary school level or the university level. At present, instruction also varies widely within each of these levels. Let us consider first the areas of knowledge and what information has been recommended as desirable for teachers and then discuss the possibilities and limitations in providing professional preparation for health education in teacher training institutions at the lower and higher academic levels.

AREAS OF KNOWLEDGE

Desirable knowledge lies in at least four broad areas: knowledge about the child, knowledge about health, knowledge about the school health programme and knowledge about how to teach the subject. The Joint WHO/Unesco Expert Committee on the Preparation of Teachers for Health Education has this to say regarding what the teacher needs to know:

'To enable the teacher to work in health education successfully and with satisfaction a specific and systematic preparation must be included in the general teacher training programme. The dual task of maintaining his own health and of contributing effectively to the health education of his pupils suggests the need for knowledge in the five subjects described below.

'*Growth and development*

This subject deals with the pattern of growth and of physical, mental and emotional development through infancy, childhood and adolescence to adult life. It is important to know the interrelationships between all aspects of growth and also the nature and range of individual differences.

'*Personal health*

Adequate knowledge of personal health makes for an appreciation of positive health and its value to the individual, as well as for an understanding of the essential requirements for healthy living. It includes the study of applied nutrition, infection and immunity, the hygiene of the various systems of the body, mental hygiene, safety and first aid, stimulants and narcotics, departures from normal health, the wise use of medical and dental care, and family life education.

'*Community health*

This subject is needed for both individual health and effective teaching. It includes knowledge of the nature of governmental and voluntary health agencies, and of principles of communicable disease control, mental health, and child health promotion; of community resources for ensuring safe food and water, clean air, protection against noise, and disposal of wastes; of the hygiene of ventilation, heating and lighting; and of community attitudes towards health and disease.

Home, school and community relationships in health education are especially important, because the health education activities

of children, youth, and their families need to go forward hand in hand if they are to reinforce each other and promote desirable health practices in an integrated manner.

'*School health practice*

The necessary understanding of school health principles and practices includes a knowledge of: (*a*) the elements which can contribute to a good physical environment for a school, e.g., such items as satisfactory seating, ventilation and lighting, a safe water supply, adequate toilet facilities, waste disposal, insect and rodent control, and the cleaning and maintenance of buildings; (*b*) school procedures for dealing with childhood diseases and other health matters; (*c*) school medical and dental services, including health appraisal of the pupils, testing for vision and hearing, and correction of physical defects; (*d*) the programme of safety education and first aid in the school; (*e*) physical education and recreation; (*f*) how to plan the school programme with reference to the physical and mental health of the children and youth; and (*g*) how to work effectively with the other members of the school teaching staff, with health workers and others.

'*Methods of health education*

The study of health education methodology includes consideration of the use of direct instruction, the development of teaching units, the integration of health instruction with other subjects, the effective use of lectures, discussion methods, field health projects, problem-solving methods, demonstrations, exhibitions, dramatizations, field trips, visual materials and how to obtain source materials. It also includes consideration of the use of such routine procedures as weighing and measuring, daily observation of pupil health, school meals and relaxation periods, and of the use of school and community situations in health teaching. The teacher needs to know how to relate health education to the interests and capacities of specific ages and cultural backgrounds. He learns that practical health education should start from the situation in which the individual student finds himself and not from an artificial and theoretical standard of perfection.'

EXTENT AND ORGANIZATION OF HEALTH INSTRUCTION

What will be the extent and organization of direct instruction in health and health education?

Curriculum committees and/or faculty health committees decide the extent of health instruction and where it will take place. They indicate time allotment and subject matter for courses in health and health education. They plan for the integration of health instruction in other courses in the teacher training institution.

In general, teachers having the least professional preparation will be in communities and situations where their responsibility for the health of the pupils is relatively greater than that of teachers in the more highly developed areas. Their instruction in health may desirably use a larger fraction of their total professional education than that for teachers who are studying at the university level.

Preparation at the secondary school level

The more limited programmes for the preparation of primary school teachers are found in institutions which accept students after six to eight years of primary school and provide one, two or three years of study. Each curriculum committee must decide what the teacher will be expected to do in the school to which he will be assigned and plan instruction on the basis of the most urgent priorities and the instructional possibilities.

Some instruction must be given in *growth and development*, to give the teacher an understanding of the characteristics of the children with whom he is working. This instruction is sometimes in a separate course. Sometimes it is part of the course in educational psychology or a course in school health and health education.

In the type of normal school we are discussing, instruction in *personal and community health* is at the academic level of the secondary school courses which we have discussed in Chapter 3. Because the time is limited, consideration must be centred upon the most acute health problems of the teacher and his pupils. Some instruction is commonly recommended to help the teacher recognize departures from normal health on the part of the pupil together with instruction as to what he can do by way of referral.

There is no standard course which can be used everywhere. One teaching plan suggests the inclusion of 'nutrition, sanitation, diseases and their control, the working of the human body and keeping healthy'.

An illustration of one kind of detailed statement which is useful in the outline of a course for teachers is the following quotation from the informal report of a Joint FAO/Unesco/WHO committee on Nutrition Education which met in Paris in September 1964. It proposed that, in nutrition education, instruction given to teachers in training should 'in so far as practical' include:

'*a.* Basic knowledge in nutrition, diets, foods, food principles.

b. Foods for different conditions, knowledge of the growing process. An awareness of the importance of the diet for vulnerable groups, e.g. young children, mothers. Ability to recognize signs of malnutrition.

c. Area problems in food and nutrition at community, regional and national levels. Knowledge of practices already existing in the community surrounding the school.

d. Agricultural, economic and socio-cultural factors of foods.

e. Food management production and availability, selection, acquisition, preparation and conservation.

f. Food hygiene.

g. Nutrition education; in particular the methods and techniques the student will be expected to use in the school, preparation and use of audio-visual aids.

h. School feeding programmes. Knowledge about their organization and management and participation.

i. The school garden plot and domestic animal breeding as sources of protective food in the school and in the home.

j. Planning of nutrition and nutrition education programmes. General orientation. Knowledge of existing programmes. Co-ordination and evaluation.

k. The value of nutrition education in the community and how this can be influenced by the school.'

Some instruction in *first aid* is given in almost every programme of teacher preparation. What needs to be given in any particular normal school will depend upon the emergency situations (accidents and illnesses) with which the teacher is likely to be confronted and upon the availability of medical resources. The teacher will need careful training concerning these things which he must do by himself and also instruction regarding the use of such facilities and assistance as may be available.

As much practical information as possible is given to the teacher

in training concerning the *school health programme* and *methods and materials in health education*. This instruction may take place in a separate course, in the course in health or together with instruction in teaching methods.

Many of the teachers who are being trained at the secondary school level will go into villages and will profit by special instruction concerning their responsibilities in *school, home and community relations*. In some countries the programme of preparation for primary school teachers for rural areas includes orientation for their participation in community development. Such a teacher will be concerned with customs, traditions, beliefs, superstitions. In some cases, he will be concerned with the role of fetichists, sorcerers and indigenous practitioners of 'medicine' and with the modernization of agriculture, cattle raising, soil protection and the operation of cooperatives. He cannot become a cultural anthropologist, agriculturalist and economist, but orientation by means of instruction at the normal school, and temporary assignment to a village where a development programme is under way has enabled teachers to give valuable leadership in some types of villages.

A well-developed programme for training teachers to give leadership in community development is to be found in the Thailand/Unesco Rural Teacher Education Project (TURTEP). This project was established at Ubol in 1956 by the Ministry of Education and Unesco.

The programme of study is two years in length and combines the technique of fundamental education with the methods of teaching children. Students acquire techniques in guiding adults and youths in village improvement programmes which may involve agriculture, home economics, domestic industry, and public relations as well as public health. The project has the view that 'close relations between school and community are only possible if the teachers, the pupils and the school as a whole consider service to the community to be their duty'.

In the training of these community-school teachers, 'the term curriculum means the totality of learning activities and experiences'. This curriculum has three major aspects: general education, theory and practice in education, and training for community leadership. The last mentioned aspect takes the student to villages

where they actually experience teaching in the school and working with adults and out-of-school children and youth in community development activities.

During the first year of study about 50 per cent of the courses concern general education and the other 50 per cent deal with methods. The Demonstration School is used as a teaching–learning aid in the study of education and teaching. The student observes demonstration lessons, general school operation and pupil activities.

During the second year of study, the class is divided into three groups, each one of which spends one-third of the year in the village schools of the laboratory or practice area where their activities include classroom teaching together with observation and participation in the community development programme.

Before beginning practice teaching, the students attend an important orientation course dealing with the purpose and activities of the rural teacher training project, the relations between school and community, the importance of getting acquainted with the villagers, community meetings, methods of teaching in primary schools, principles of community development, and practical experiences in the manual activities which may need to be taught in the community. While engaged in practice teaching the student teachers participate in various activities such as school improvements and agricultural experiments. In the villages there is co-operation between the project and government departments, especially those dealing with interior affairs and public hygiene.

The general satisfaction of the Government and the people with this project has been reflected in the expansion of this type of teacher training to the other normal schools of the country.

The following section on teacher preparation at the university level may also have helpful suggestions for institutions which are preparing teachers at the secondary school level.

Preparation at the university level

For students whose preparation for teaching takes place following twelve years of primary and secondary education, more extensive and advanced study in health and health education may be expected. All of the subject matter areas suggested in the above recommendations of the Joint Unesco/WHO committee on the

Preparation of Teachers for Health Education (p. 112) will find a place in the programme of study. More class time is obviously available if the course of study is for four years than if it is for a shorter period.

Reasonably thorough instruction in the growth and development of children is almost universal.

In some cases, instruction in health and in health education is presented in one course of appreciable length. For example in Ceylon such a course covers 108 hours and includes:

1. The role of the school in personal and public health	5 hrs
2. Basic concepts of health—Overview	1 hr
3. Basic concepts of health—Detail	48 hrs
4. Organization of the school health programme	15 hrs
5. Health instruction—Methods, Materials	39 hrs

In the USSR, all institutions preparing teachers for the primary schools give a required course in 'the anatomy and physiology of children and the fundamentals of school hygiene'. One hundred and twelve hours are devoted to this subject, 84 of these being taken up by lectures and 28 by laboratory work. In addition, students are given special tasks in school hygiene during their practice teaching in schools, pioneer camps and with groups of pupils undergoing practical training in agricultural activities. All teachers of special subjects (grades V and above) take a required course of 36 class hours (18 hours of lectures and 18 hours of laboratory) in school hygiene.

In various parts of North America, a course in personal and community health is usually given in the first year and a course in school health and health education is commonly given in one of the later years.

The course in health is likely to include such topics as health values, nutrition, digestion, oral hygiene, the respiratory system, circulation, skin, endocrines, the sense organs, the nervous system, mental and emotional health, activity and physical fitness, narcotics and stimulants, safety, heredity, familial hygiene, the health of the teacher, and health problems of the adult. The study of community health commonly considers such topics as infection and immunity, food and drugs, water supplies, waste disposal, air and

light, governmental health activities, maternal and child health, school health, communicable and non-communicable diseases.

A list of topics found in courses in school health education is given in Appendix III.

Preparing teachers of health for secondary schools

Apart from the major problem of preparing primary school teachers for health education, there is the rather more extensive preparation of teachers of health in the secondary schools. Obviously the health background of such teachers should be comparable in quality to the subject matter background of teachers in other subjects. There is often the difficulty that while teachers of language, for example, give all of their time to the teaching of the one subject, teachers of health must commonly teach some other subject because hygiene classes do not fill their schedule. Very commonly the hygiene teacher also teaches biology or physical education or some other subject in the field of basic science or social studies. This necessity to prepare to teach more than one subject, as well as limitation in the number of available courses, prevents the student from getting as much preparation in the underlying exact and social sciences, and in health and health education as would be desired.

In large universities, instruction to prepare teachers of health for secondary schools includes basic health-related courses such as bacteriology, zoology, psychology, sociology, public health, hygiene and physical education. Some universities and schools of public health offer a year of advanced or graduate training in the field of health education with a programme selected from a wide choice of courses such as sanitation, the school health programme, school health services, communicable and non-communicable diseases, mental health, familial hygiene, nutrition, human behaviour, secondary school methods of health education, school and community relations, and community health education. This range of subjects in personal health, public health and health education is available in only a few countries. A national curriculum committee or a health committee in an individual teacher training institution considers what is desirable, what is practical, and what is possible. It is impossible to describe here the many different programmes reported from Member States of WHO and Unesco.

Practice teaching

What learning experiences should be provided in practice teaching?

Present instruction in how to teach health is often inadequate. Even where theory is given, there is frequently a lack of adequate experience in practice teaching. It is commonly said that improvement in educational methods is slow because 'teachers teach as they were taught and not as they were taught to teach'. There should be a well-developed health programme where the student teacher does his practice work and he should participate in it.

The following learning opportunities for student teachers are listed in the literature as possible and desirable in connection with practice teaching. Some of them can also be provided in connection with course instruction.

In connection with *healthful school living*, various outlines suggest that practice teaching should give the teacher in training an opportunity to:

1. Observe and check accident hazards at school.
2. Observe and participate in the control of heating, ventilation and lighting.
3. Observe satisfactory sanitary facilities and school equipment.
4. Observe and evaluate the emotional climate of classrooms.
5. Participate in situations demanding good interpersonal relationships.
6. Observe and consider the school programme with reference to the daily regimen of the pupil and his health.
7. Observe and participate in school lunch and other routine activities related to health.

With reference to *school health services*, practice teaching should provide an opportunity to:

1. Study and observe signs of deviation from normal physical and mental health on the part of pupils.
2. Participate in testing vision and hearing.
3. Visit health agencies and clinics in the community.
4. Observe the activity of a health committee or health council.
5. Observe teacher–nurse and teacher–physician relationships.
6. Examine school health records.
7. Make a case study of an individual child with reference to his health, school progress and family situation.
8. Observe practical procedures for emergency care and first aid.

9. Have contact with health personnel in relation to individual pupil health problems and observe activities for the health guidance of individual children.
10. Observe existing health services for exceptional children.

With reference to *health instruction*, practice teaching should give the teacher in training an opportunity to:

1. Observe effective health teaching.
2. Develop and teach interesting and motivating health lessons.
3. Evaluate and use texts and other source materials.
4. Use appropriate appraisals in the evaluation of health instruction.
5. Study and, if possible, use community resources for health education.
6. Observe health coordination activities within the school and between school, home and community.

Further professional education of teachers in service

What possibilities are there for further professional preparation for health education on the part of teachers in service?

Although in-service education lies somewhat outside the immediate scope of this book, we should not forget its possibilities and values. Some of our contacts have emphasized the need for in-service training in health for general primary supervisors, school inspectors, and headmasters, as well as for teachers.

The conscientious teacher constantly increases the effectiveness and scope of his contribution to health as he works with children in a school system which has a well-developed health education programme, especially if there is a qualified supervisor of health education. *Conferences* with health service personnel regarding pupil health problems, *visits* to health centres and *service on health councils* provide excellent learning experiences. *Lecture courses, working parties, meetings, exhibitions, radio, television and film programmes, teacher institutes* of one to three days and *short courses* for teachers, *summer workshops* in health education, *correspondence courses* in subject matter or methods, and the constant use of constructive *resource materials*, all contribute to the in-service education of teachers.

In the USSR, leadership in supplementing and improving the

health education of teachers in service is provided by the Central Institute for Research in Health Education. Short courses are offered for improving the qualifications of teachers covering such subjects as the anatomical and physiological characteristics of children and youth, the hygiene of teaching, the prophylaxis of tuberculosis, rheumatism and some other diseases of children, and methods of health education. Seminars and conferences are held in the different regions of the country. Advantage is taken of the annual conferences of teachers, held before the beginning of school each year, to present lectures and demonstration lessons. A considerable literature on the science and teaching of health is prepared for teachers.

A dynamic, successful and unusual programme of in-service training is under way in Manila, with the cooperation of WHO, Unesco and Unicef. The Department of Education, Department of Health, Philippines Normal College and the University of the Philippines participate. This 'Training programme in school health education for the Philippines' has a community perspective and brings together for summer institutes school administrators, primary school teachers, health teachers in the secondary schools, school physicians, public health nurses, midwives, school dentists and elementary school supervisors.

The summer institute is seven weeks in length. Subject matter under consideration deals with personal and community health, health education and the several phases of school health. It centres on the development of 'an action programme' and the students plan activities for the coming school year in their respective communities. The approach to school health problems during the institute is a 'team' approach and the subsequent community activities follow the same pattern.

During the last three school years, 'task force teams' representing Unesco, WHO and all of the national participating agencies have visited thirty-four provinces and eleven cities, which had been represented in the summer institutes. They have gone to see what is done, to advise and to encourage, not to evaluate. A mimeographed news sheet which is sent to all the participants in the institute reports upon the activities and achievements of different members of the groups. Workshops and conferences are held at the regional, provincial and municipal levels.

Reports of the task force teams indicate that former project participants have taken initiative in the organization of community health councils; in the improvement of sanitation and the beautification of school environments; in the development of 'self-help' pilot schools for health education; in the construction of community toilets, drainage ditches and garbage pits; in the improvisation of health rooms and school clinics; in the development of teaching materials; and in the utilization of new and practical methods of health instruction.

The better preparation of all teachers is receiving worldwide attention and the in-service training of teachers, school health personnel and school administrators is an urgently needed step in the improvement of health education in schools.

Appendix I

Desirable learning experiences and practices in health

SOME CURRICULUM committees have included in their health education outlines a statement of specific learning experiences to be provided and health practices to be developed. Such a list does provide a definite, concise and useful statement of what the school seeks to do in health education.

All the items in the following list are taken from courses of study and may be of interest to your committee. *The list itself is not suitable for any specific health education outline. It includes some items you would not want and it lacks items you do want. It is a reference list, not a proposed list.*

It must be remembered in examining this list that:

Individual practices will not be universally applicable.

Some practices are very important to health while others are much less important.

There are differences of opinion as to the desirability of some practices.

The statement of some practices will be understood differently in different parts of the world.

Many experiences which might be desirable may be impossible or impractical in certain situations.

Some items refer to mental health and acceptable social behaviour.

The reader will think of preferred phraseology for many statements.

Some items apply to urban schools but not to rural schools and vice versa.

In this list many desirable practices are indicated in general terms because of the wide variation in specific procedures in different geographic regions and at different age levels. For example, 'The child or youth should develop specific practices

in regard to safety . . . at play and in sports.' What safety practices will be specified in the local curriculum depends upon whether it is being planned for the first-grade child or the high school student; for children who swim in the tropics or for children who ski in a northern country; for the child on the playground or for the class in the gymnasium.

Again it is suggested that pupils should learn to include adequate protein in the diet. The individual curriculum committee will indicate what food is to be used, whether it be milk, fish, soy bean curd, protein-rich flour, or some other.

This appendix is intended for reference purposes, not for inclusion in a course of study.

Healthful school living

ENVIRONMENTAL HEALTH

The child or youth should be in a school which:

1. Is situated in an area well drained and protected from unnecessary noise, dust, soot and fumes.
2. Is built with due regard to orientation, stability of construction, size of rooms, fire protection, acoustics, flooring and equipment.
3. Is designed for the maintenance, in so far as necessary and possible, of a healthful and comfortable atmosphere, through control of humidity, temperature, air movement and heating.
4. Provides for adequate lighting of all rooms, corridors and staircases and for avoidance of glare.
5. Provides for the elimination of accident hazards, such as faulty electrical wiring; defective heating or ventilating equipment, or inadequate maintenance of floors, buildings and grounds.
6. Is designed to prevent or to minimize the entrance or harbourage of insects, rodents and other vermin.
7. Provides for safe and ample drinking water, dispensed in a sanitary manner.
8. Provides adequate sanitary toilet facilities for each sex and of a suitable type consistent with local customs and habits.
9. Provides a place where children can wash and dry their hands in a sanitary manner after using the toilet.
10. Provides adequate play space and facilities.
11. Provides adequate schoolroom cleanliness.

12. Provides sanitary procedures and facilities in connection with any school feeding which takes place.
13. Provides enough sanitary facilities for washing and drying the hands before eating.

INTERPERSONAL RELATIONS

The child should have the benefit of a school where:
1. A conscientious attempt is made to meet his need for security, successful achievement, self-expression, acceptance, recognition, self-respect and affection.
2. Attention is given to developing concentration of attention and the promotion of an orderly association of ideas.
3. The child learns to take effective action when necessary.
4. Teachers respect the personality of the child and have a genuine interest in children.
5. A friendly atmosphere is maintained in the classroom.
6. The teacher seeks through the activities of the school to develop respect, courtesy, orderliness, willingness, truthfulness, friendliness, cheerfulness, unselfishness, emotional control, honesty, a sense of humour, the ability to meet disappointment bravely and to remain good-natured under trying circumstances, the enjoyment of work, and the power to continue a task until it is sucessfully completed.
7. Teachers maintain impartial relations with all children.
8. There is concern for the development of kindliness toward younger children and toward animals, the habit of cooperating, fair play, willingness to share possessions but respect for the property of other children, the ability to forget a grudge, group participation, and willingness to obey the rules of the group.
9. Constructive interpupil relationships are encouraged.

SCHOOL MANAGEMENT

The pupil should have the benefit of a school where:
1. The length of the school day is adjusted to the age levels of children.
2. Health factors are considered in planning homework and after-school activities.
3. The sequence of subjects and the arrangement of school work is such as to provide variety and to relieve physical tension and mental boredom.

4. Provision is made for activity under the best available physical education leadership.
5. In the elementary school, periods of relaxation are provided as needed.
6. The number of subjects studied daily is adapted to the age of the pupil.
7. The length of class periods is adapted to the age of the pupil and the character of the class activity.
8. Adequate time is allowed for lunch periods, toilet habits, and conferences between pupil and teacher.
9. Adaptation of the school curriculum is made for under-par and handicapped children.
10. Appropriate school adjustments are made in cases of necessary absence for illness.
11. Examinations, grades and reports are organized to reflect achievement without unnecessary worry and emotional stress.
12. Standards and regulations are understood and discipline is soundly conceived and carried out.
13. Primary school pupils have an opportunity to watch their growth, being weighed and measured monthly or frequently.
14. The school lunch, if available, provides sound nutrition and is used to help children learn to like a variety of foods, observe sanitary food handling, experience comfortable eating arrangements, learn to select proper foods and to eat leisurely with appropriate eating utensils and appropriate table courtesies.
15. Teachers in the primary school observe children each morning for signs of illness and for personal cleanliness.

School health services

Children should:
1. Have a health examination at school entrance and when desirable thereafter, with appropriate interpretation of the findings to parents or student and with health advice as needed.
2. Be examined (at later ages and with special reference to cardiac defects) before entering strenuous athletics.
3. Receive tests for vision, hearing and dental health at regular intervals.
4. Receive psychiatric help if necessary.

5. Be observed for major postural or orthopaedic defects.
6. Have the advantage of follow-up service in the correction of physical defects.
7. Be immunized, if this has not been done previously, against diphtheria, pertussis, smallpox, poliomyelitis, tetanus and other specific diseases in accordance with individual or community needs.
8. Have the benefit of sound epidemic control measures when a communicable disease appears in a school.
9. Receive appropriate emergency treatment in the case of sudden illness or accident.
10. Have the benefit of a continuous health record.

Health instruction

The child or youth should be in a school which:
1. Has a programme of health instruction which is behaviour-centred; which is developed through direct instruction, correlation and integration; which is based progressively upon the child's changing needs and interests; which makes appropriate use of the problem-solving approach; and which uses a variety of methods and available resources.
2. Makes use of incidental health instruction in connection with appropriate classroom situations and uses extra-class opportunities to teach health as, for example, in connection with the school canteen, school gardens, school poultry projects, fish ponds, school fairs, health weeks and playground activities.
3. Has a programme of factual instruction adapted to grade level, and which, by the end of the secondary school, will have presented appropriate information concerning (*a*) the structure, function and control of the human body with reference to the basic life processes of digestion, respiration, circulation, excretion, nutrition, metabolism, movement, the functioning of the sense organs and nervous systems and the process of reproduction, (*b*) the biological need for air, water, food, activity, rest and sleep, (*c*) mental health, (*d*) the dangers to health from organic and communicable diseases, accidents, poisons, drugs, alcohol and radiation, (*e*) scientific health care, (*f*) the factors involved in the establishment of the family and the maintenance of its health and wellbeing, (*g*) the

protection of health through public health services, (*h*) local, national and international health programmes, (*i*) pertinent occupational and consumer hygiene, and (*j*) research as a factor in health improvement.

4. Helps the child to develop an attitude toward health which regards it as a means of enriching life and not as merely an end in itself, and an attitude toward health practices which recognizes them as related to physical and mental wellbeing, social acceptability and accomplishment.

FOOD AND NUTRITION EDUCATION

The child or youth should learn to:

1. Eat daily a variety of food, which will provide adequate protein and other dietary essentials.
2. Secure an adequate liquid intake.
3. Like a variety of wholesome and desirable foods.
4. Include sufficient roughage in the diet.
5. Have a suitable number of well-spaced meals per day.
6. Avoid excessive sweets, especially between meals.
7. Have an adequate morning meal before coming to school.
8. Take time to eat.
9. Observe mealtime etiquette.
10. Take small bites and mouthfuls.
11. Eat slowly and chew food well.
12. Appreciate the basic facts of good nutrition.
13. Protect food from dust, flies and rodents.
14. Store fresh food properly.
15. Appreciate the dangers of food fads and fallacies.
16. Appreciate the effect of food deficiencies upon the body.
17. Refrain from handling food unnecessarily.
18. Peel fruit and vegetables if they are to be eaten without being cooked.
19. Store clean dishes and cooking utensils in a dust-proof container.
20. Buy food economically.

DISEASE

The child or youth should learn to:

1. Obey quarantine regulations.

2. Understand and accept immunizations.
3. Keep away from those ill with communicable, febrile diseases.
4. Try to prevent colds and follow proper treatment if they occur.
5. Follow medical directions when ill and during convalescence.
6. Follow practices of cleanliness to avoid skin diseases and to prevent their spread.

MENTAL HEALTH

The child or youth should:

1. Learn to concentrate on what he is doing.
2. Gradually increase his capacity for self-expression.
3. Accept his peers and be accepted by them.
4. Maintain and improve the ability to relax and rest.
5. Gradually develop increased initiative in work and play.
6. Develop increased capacity for solving his own problems.
7. Meet difficulties and disappointments squarely.
8. Develop consideration for the happiness and wellbeing of others.
9. Have wholesome relationships with the opposite sex.
10. Understand himself and adjust to defects or characteristics over which he has no control and to personal limitations in energy and individual endurance.
11. Learn to capitalize on his capacities and opportunities.
12. Learn to understand different types of personality and adjust to them.
13. Develop leisure-time activities along socially approved lines.
14. Learn and practice fair play and good sportsmanship at school and in recreational activities.
15. Accept proper responsibility.
16. Learn the value of cooperation.
17. Gain ability in meeting and greeting people.
18. Express emotions in acceptable ways.
19. Develop increasing self-reliance.

DENTAL HEALTH

The child or youth should:

1. Clean his teeth regularly and in an approved manner.
2. Go to the dentist regularly.
3. Regularly eat some food which requires vigorous chewing.

4. Avoid resting his cheek on his hand in studying.
5. Restrict intake of refined carbohydrates.

EYE HEALTH

The child or youth should:

1. Read only in a good light without shadow or glare.
2. Hold book in correct position and at appropriate distance from the eyes.
3. Refrain from looking directly at the sun or extremely bright lights.
4. Rest the eyes frequently by closing them or focusing them on distant objects.
5. Avoid reading in moving vehicles or when lying down.
6. Refrain from rubbing the eyes.
7. Have any foreign body in the eye removed properly.
8. Secure medical advice when there is trouble with the eyes.
9. Wear glasses regularly, if prescribed.

EARS

The child or youth should:

1. Refrain from putting anything into the ear.
2. Refrain from hitting a person's ear or shouting into it.
3. Seek professional advice for earache or deafness.

BREATHING STRUCTURE

The child or youth should:

1. Carry a clean handkerchief, cloth or tissue every day.
2. Breathe through the nose with the mouth closed.
3. Blow his nose gently without closing the nostrils.
4. Refrain from putting fingers or anything into the nose.
5. Cover the mouth with handkerchief when sneezing or coughing.

FOOT HYGIENE

The child or youth should:

1. Wash feet regularly.
2. Prevent ingrowing toe-nails by trimming them squarely.
3. Exercise the feet by walking barefoot on clean floors or soil (except where hookworm is present).

HYGIENE OF THE SKIN

The child or youth should:

1. Wash hands thoroughly with soap or other detergent before eating or handling food, after using the toilet and after play or occupation which indicates it.
2. Use his own towel and wash-cloth.
3. Take cleansing baths regularly.
4. Dry the skin thoroughly after washing to prevent chapping.
5. Wash face, neck and ears daily.
6. Provide skin stimulant in the form of cold showers or cold water on the face and neck followed by brisk rub or in the form of a dry rub with a rough towel.

CLOTHING

The child or youth should:

1. Wear clothing suitable to weather, seasons and temperatures.
2. Wear proper night clothing.
3. Remove wraps and rubbers when indoors and avoid waterproof materials for constant wear.
4. Remove damp clothing as soon as possible.
5. Put on extra wraps to prevent chilling after exercise in cold climate.
6. Avoid tight clothing or tight shoes.
7. Keep all clothing as clean as possible.
8. Assume responsibility for airing and brushing clothing.

HARMFUL SUBSTANCES

The child or youth should:

1. Avoid alcohol, narcotics and tobacco.
2. Avoid habit-forming drugs unless prescribed by a physician.
3. Avoid strong tea and coffee during the growing period.
4. Avoid patent medicine unless prescribed by a physician.

SLEEP AND REST

The child or youth should:

1. Understand the importance of sleep and rest.
2. Plan the day to provide a balance of rest, work and recreation.
3. Avoid undue fatigue.

EXERCISE AND BODY MECHANICS

The child or youth should:

1. Participate cooperatively in the physical education activities offered by the school.
2. Acquire reasonable proficiency during school life by participation in sports and activities appropriate to youth and in some of those which can be carried over into adult life.
3. Maintain good posture and practise good body mechanics.
4. Come to understand and appreciate the value and importance of exercise in one's daily life in respect to physical, mental and social wellbeing.
5. Use play and exercise as a means of self-expression in developing self-confidence and social adjustments.

SAFETY

The child or youth should:

1. Develop specific practices in regard to safety at home, in the street, at play, and in sports.
2. Come to appreciate the extent and importance of accidents as a health problem.
3. Come to realize that the majority of accidents can be prevented.
4. Learn the important causes of accidents.
5. Develop coordination, alertness, strength and agility, as a means of avoiding accidents.
6. Develop wholesome attitudes toward safety practices and safety rules.
7. Develop an active interest in the protection of life and property in the community.
8. Develop a sense of responsibility for the safety of others.
9. Learn the appropriate use of first aid.

ENVIRONMENTAL CLEANLINESS

The child or youth should:

1. Drink water only from a safe source of supply.
2. Boil or chemically disinfect water, when the sanitary quality is uncertain.
3. Use an individual drinking cup at school and refrain from dipping it into the drinking-water container.

4. Dispose of body wastes in such a manner that flies, rodents and other animals do not have access to them.
5. Aid in the sanitary disposal of household waste and garbage.
6. Help to keep home, classroom, school and school grounds clean.
7. Keep his work material and school desk clean.
8. Help to maintain the sanitary condition of the school toilet.
9. Help to destroy insects which are a health menace.
10. Help in the proper use of screen doors and windows in keeping out insects.
11. Help in the elimination of rats, mice and other vermin.
12. Avoid bringing dirt into the home or school on dirty shoes or feet.

COMMUNITY HEALTH

The child or youth should learn to:
1. Appreciate and comply with community health requirements.
2. Understand and appreciate community health services.

School, home and community relations

The pupil or student should have the benefit of a school where:
1. Continuing and helpful contacts are maintained between teachers and parents.
2. Suitable relationships exist between health education in school and the programme of community-wide health education of the general population.
3. Cooperative relations exist between the school and developmental, recreational and educational activities in the community.

Appendix II

A programme of health education in rural primary schools

The following 'Communication to Primary Schools' from the District Supervisor, and 'Experiments in Teaching Science as a Way of Life' are from the health education programme of the Division of Pangasinan, District II of Urdaneta, Philippine Islands. They describe health education activities which are equally useful in graded or multiple-class rural schools in the tropics. Thanks are expressed to the school authorities for allowing us to draw upon their experience.

A communication to primary schools from the District Supervisor

I. TIMETABLE FOR THE YEAR

1. Planning the year's work will be done at the beginning of the school in June, with teachers and community leaders taking part.
2. After schools are organized, plans for demonstrations will be prepared, in the following order: social studies and character education, arithmetic, the language arts (English, Pilipino and Ilocano), work education (gardening, industrial arts, and home economics), physical education, art and music.
3. The demonstrations in the social studies and character education will take place during the later part of June or early July.
4. In July, the work to develop science experiments will take place. This will require several weeks.
5. It is hoped that the demonstrations in all the subjects will be completed during the first semester, but quality performance rather than speed will be the goal.
6. Follow-up of each demonstration will be undertaken after teachers have had time to adjust their teaching.

7. The seven phases of supervision that had been demonstrated will form the basis of guiding and helping the teachers and principals and head teachers to do their work effectively.

II. TEACHING SCIENCE AS A WAY OF LIFE

8. Science will be taught primarily as a way of life and secondarily as an abstract subject. In particular, it should provide the scientific bases for the practice of health habits, of safety, of food production, and nutrition, of improving physique, of character and citizenship, of communication, of scientific thinking, etc.

9. For each grade a minimum of ten experiments and observations will be required, for each of which (orally and informally in Grades I and II), the following steps will be followed:

a. Stating the problem
b. Listing the materials used
c. Describing the procedure followed
d. Observing, writing down or explaining (orally in the first two grades) the results obtained
e. Drawing the scientific principles involved
f. Applying the principles: first orally or in writing and then actually—in the school premises and in the pupils' homes and lots
g. Developing appropriate and effective evaluation and follow-up procedures
h. Reading of materials on science to verify principles drawn or to develop additional experiments.

10. In developing the science experiments the help of General Office supervisors will be requested. They will serve as consultants and resource persons. They will help see to it that:

a. the experiments will be scientifically structured;
b. the applications made are valid and as universal as possible;
c. the subject matter of the experiments is related to the needs, capacities, developmental levels, and readiness of the children;
d. the experiments are based on existing resources and available personnel and equipment.

11. As much as possible, parents and other adults in the community will be invited to observe the experiments and to help carry out the application of the principles involved to the homes and lots of the pupils.

III. DEMONSTRATING THE USE AND UPKEEP OF TOILETS

12. The proper use of the toilets will be demonstrated very early in June so that the correct habits of their use will be formed at the start of the school year. After the demonstrations, means will be developed and applied, i.e. charts, with which the pupils will take turns to check up the extent to which the toilets are clean, dry and odourless.

13. Girls' and boys' urinals should be provided, early in June, with appropriate containers with which to collect the urine for use (after being diluted in the proportion of one urine to three or four water) to water flowering plants, grass, fruit trees, and some kinds of vegetables (whose fruit, not leaves, are used for food).

14. The urine should be left overnight before being used, to turn it from acid to alkaline.

15. The contents of the privy, after being allowed to decompose for a period of not less than nine months, will be used as fertilizer in the school garden. Portable shades and seats will be made and transferred (after the hole is filled) over a new dugout next to the old one.

16. Washing facilities will be provided, using bamboo and other inexpensive material. The pupils will be taught and guided in the upkeep of these facilities.

17. Efforts will not be spared to help improve the construction and use of home toilets of the pupils by giving them school time to make the necessary repairs and improvements.

18. The surroundings of the toilets will be made a thing of beauty by planting hedges and climbing flowering plants around them.

19. The use and upkeep and the beautification of the toilets will be related to character and citizenship training, to reading and language, as well as to health and science.

IV. HOME GARDENING

20. To provide appropriate and effective carry-over of knowledge and habits and skills in food production taught in the school to the home of the pupils, it was agreed that two or three days of the week devoted to gardening be used to enable the pupils to develop their home lots: to remove old and unproductive plants and replace them with new and better varieties, to plant where none grows, to prune fruit-bearing trees.

21. To teach the pupils to work cooperatively and to enable the teachers to supervise home gardens more easily, the pupils will work in groups, using the 'tagnawa' system. At the same time the parents and older brothers and sisters will be encouraged to work with them.
22. Among the practical activities to be encouraged is the planting of 'ipil-ipil' to serve as fence and, incidentally, to provide fuel and animal feed.
23. The conservation of waste matter, grass cuttings, leaves of trees, with which to make compost fertilizers will be taught in school and applied in the homes of the pupils. Cultivation and mulching (with leaves, grass cuttings and garbage) will be encouraged.
24. A part of the work of the pupils in their home lots is the improvement and maintenance of the family toilet. Provision for a cover, a vent pipe and washing facilities should be a part of the chores that will be required.
25. Vacant lots may be put to cultivation on a share basis with the owner by pupils who have no home lots to cultivate.
26. Every school should have a good nursery which will serve many purposes: where seeds and seedlings may be kept for distribution to families of the community; where the pupils may study seed selection and propagation; where two or three pupils may sleep at night to keep watch on the garden; etc.

V. PRACTICE IN HOUSEKEEPING

27. Keeping house is learned by doing housekeeping in the natural way. It is well to start the use of the home economics building as a practice house for the girls, who may be asked to reside in the building for a period of time, taking turns by groups of three or four to do so.
28. The practice may later on be shifted to the homes where the pupils may, with the permission of their parents, take over the management of their homes. If the mothers desire to take part to guide the girls, they should be encouraged to do so. The children will learn from their mothers and they from their children.
29. At certain points the boys may be involved, since later on they will be heads of their own families.

VI. EFFECTIVE AND DEMOCRATIC SUPERVISION

30. The application of principles of effective and democratic supervision which grew out of the demonstration on how to supervise, will continue to be made through the filling out and submission of the 'Monthly Report on Supervision' by the principals and head teachers. Each set of reports will be analysed in order to indicate the gains made and to suggest further improvements in procedures and in the content of Form 178. The February forms have been analysed by Dr Borlaza of the PNC and the results of his analysis have been furnished to the principals and head teachers concerned.

31. Attention is specially called to the following: unevenness of distribution of visits, one-sidedness of the agreements, tendency to be dictatorial and dogmatic in making suggestions, and the failure to be specific. Much can be done with little effort to improve upon these.

VII. EFFECTIVE UTILIZATION OF SCHOOL MANPOWER

32. The proper utilization of manpower in the school is an imperative need. The school should be regarded as a miniature community whose management and upkeep should be left to the staff and pupils. This does not mean that the children should be exploited but that they should be taught to learn their responsibilities along with their rights as members of their school community.

33. This means that all lessons in character and citizenship, in health and sanitation, in food production, in nutrition, in keeping physically and mentally fit, in effective communication, should be applied in school premises before they may be expected to be carried over into the homes of the pupils.

34. If the pupils are taught to cultivate, fertilize with compost, and mulch plants, every plant and tree in the school yard must be cultivated, fertilized, and mulched. This means that all grass cuttings and leaves of trees should be put in compost pits or piles to decay and be used later on to fertilize the plants.

35. Discipline to be positive and effective must be the result of everyone knowing his duties and responsibilities and acting on them without exception. This should be applied to all aspects of living together in school and in caring for the physical plant, the grounds, the plants, etc., which are for the pupils' own use.

VIII. INVOLVEMENT OF THE ADULTS

36. The children do not live by themselves. For them to practise in their homes what they are taught in school, the parents must be educated and motivated to appreciate their need for having the chance to do so. The best way to prepare them to do so is to involve them in demonstrations in school and in the home in the teaching of the various subjects.

37. Representative parents and laymen were involved in planning the year's work and in evaluating the various phases of community improvement that have been effected, but not in other phases, such as those involved in the teaching and learning of the academic subjects.

38. Henceforth, therefore, efforts will be made to involve representative parents, community leaders and other adults in every school undertaking. There need not be compulsion in this matter. There will be interested adults who may be invited to take part and gradually as they see the value of their participation they will take part in more and more school activities, and more and more will do so.

IX. EVALUATIVE CRITERIA: THOROUGHNESS OF LEARNING AND EFFECTIVE PERFORMANCE

39. The end results of all good education are thorough learning and useful and effective application. The pupils must know the multiplication table before they can apply it; they must have something to communicate and know how to communicate it before they can make themselves understood by others; they must know what is good before they can be good. But, knowing all these is of little value unless they make good and effective use of their knowledge for their own welfare and for the wellbeing of others.

40. All efforts of evaluating the worth of each pupil and of the year's work therefore should involve assessing the effectiveness (thoroughness) of learning the fundamentals of knowledge and the readiness and competence of the learner in applying what he knows to useful ends.

X. IMPLEMENTING THE ACTION PROGRAMME

41. This action programme was the outgrowth of the discussion

following the demonstrations in science teaching, involving principals and head teachers and all the teachers of District II and a number of the staff of District I. Later on, the draft programme was discussed by principals and head teachers of both districts.

42. The purpose of an action programme is to enable the staff of each school to plan its work around and toward specific goals, to avoid heading in all directions by trial-and-error methods, and to involve everyone concerned, including teachers, community leaders, representative parents, the school janitor, etc.

43. This being the case, this action programme is subject to modification to fit existing conditions, needs and resources in different schools. Principals and head teachers are encouraged to take it up with their teachers and community leaders so that it will become their own plan of action.

44. Full implementation of every part of this action programme is not expected. It is hoped, however, that as much as possible will be done in each school to reach the goals that are indicated.

45. Needless to say, this action programme should not in any way interfere with other action programmes such as those that may be suggested by the Division Office or by the General Office of the Bureau of Public Schools.

Experiments in teaching science as a way of life

The following simple experiments in teaching 'science as a way of life' were carried out in Grades I to VI in the rural schools of Urdaneta, Pangasinan, Philippine Islands and are briefly summarized here.

Experiment 1. REDUCING THE SMELL IN PRIVIES

The pupils did not like to use the privies because the odour was so unpleasant. The teacher said the privy would have less odour if it could be kept dry. The class decided to experiment by keeping urine from the toilet pit. A simple bamboo urinal was put in the boys' toilet. The urinal was washed after school every day and the urine was diluted to one part urine to four parts water. After standing overnight the diluted urine was used to water plants

(young trees and smaller plants), being careful that the urine solution was kept away from edible leaves, fruit and vegetables.

The experiment was tried by the boys using the boys' toilet and also by the girls using the girls' toilet.

The pupils found from their experiment that:

1. The urine solution caused the plants to grow much faster.
2. The unpleasant odour of the privy almost completely disappeared.
3. More pupils used the toilets.

In some schools the urinals were made of tin. They were at the proper height. They sloped enough to drain quickly. Each drained into a tin can. They were rinsed as the water was added each day to make the one to four dilution.

Experiment 2. THE CONTENTS OF TOILETS IS GOOD FERTILIZER

The toilet house had been moved a year before to a freshly dug pit and the old pit had been filled with dirt. The pupils noticed that grass and other plants near the old, filled-in toilet pit grew very well.

The teacher permitted an experiment to be carried out after the toilet had been abandoned and filled in for more than nine months. During that time the contents had turned into soil. When it was dug up, it had the smell of good soil. It was put around plants and around a fruit tree along an imaginary line in a circle under the farthest ends of the branches. The plants grew much faster.

Result: the pupils found that body waste turns back into soil which is excellent fertilizer.

Experiment 3. CONSERVING GARBAGE

A teacher commented with regard to this experiment that 'Where children and their families observe that burying a dead animal near the guava tree gives more and larger fruit they give up the old practice of throwing it in a canal or on the street. When they find that composted garbage, animal dung, fallen leaves, discarded grass and other refuse is good for fruit trees and vegetables and that composting keeps flies away besides, they have sense enough not to throw things away.'

In this village the school is located opposite a line of private homes. Garbage was thrown on the side of the street, where it

remained for days as food for flies and rats. The pupils dug holes one foot in diameter and two feet deep near the fence in the sandy soil, into which was put garbage, leaves, grass clippings, the dung of chickens and animal manure dropped on the road. These were mixed with soil. After the compost had had six months in which to decompose, the pupils planted vegetables along the fence. All plants were given the same care. Plants near the composted garbage area grew much faster than those which were not near compost pits. The pupils found that composting had turned garbage from a nuisance into an asset. Many pupils performed this experiment in their home lots.

Experiment 4. GETTING RID OF FLIES BY STARVING THEM

This experiment was conducted in the home of one of the pupils. The class used a dining-room table for it. Half the table was cleaned thoroughly with soap and water. The other half was left covered with crumbs and left-over food such as shells, rice and mango peelings. When the class returned after a few hours the pupils saw many flies on the left-over food but hardly any on the part of the table which had been cleaned with soap and water.

The conclusion of the pupils: 'Flies will not go where there is no food for them. To get rid of flies starve them by cleaning the surroundings, the kitchen, dining-room, yard, toilet and all.'

Experiment 5. HOW TO KEEP THE PLACE UNDER THE KITCHEN DRY

In this village the houses are built on stilts and have an open space beneath. The place under the kitchen is usually filthy and makes a good breeding place for mosquitoes. One class tried to solve the problem of draining and cleaning this area. They gained permission of the owner of a house to try to remedy the condition.

They found that water will run down a bamboo tube or glass tube even though the slope is not very great. They dug a hole of about one square metre and one metre deep under the kitchen and they put stones and gravel in the bottom of the hole. They put bamboo tubes from the pool of water to the edge of the hole and covered the hole with bamboo strips, earth and gravel.

Result: the place under the kitchen became dry to the delight of the owner and the children.

Appendix III

Topics presented in teacher training courses dealing with health education and with the school health programme

THE FOLLOWING topics are not those of any one course. They are not proposed as the outline for a course in any teacher training institution. They have been selected from the outlines of many different courses and are presented here in the hope that such a comprehensive list may be useful in selecting what curriculum committees and professors of health education may wish to include in the respective courses they are planning.

1. Introduction
Health as an objective of education. School responsibility for child health. The scope of the school health programme. Objectives of health education. Technical terms and definitions. Major health problems of the school age child.

2. The health of the teacher
The importance of health to the teacher. Occupational hygiene of the teaching profession. Factors influencing the health of the teacher. Administrative responsibility for teacher health. Community responsibility for teacher health.

3. Healthful school living
What is meant by healthful school living. Safe and healthful environment. School organization for pupil health. The classroom programme. Interpersonal relationships. Utilizing the environment for health education.

4. The child
The art of observing children. When and where to observe the child. Standards of comparison. The relationship of health status to learning. Similarities and individual differences. Signs of health. Danger signals. Making referrals.

5. Growth and development

Patterns of physical growth and development. Factors influencing growth. Stages and rates of growth. How developmental status is measured. Nutritional status. Mental growth and its measurement. Intelligence tests. Achievement tests. Aptitude tests. Factors influencing mental growth. Identifying superior children and their problems. Gifted children. Backward children. Emotional and social development. Phases and aspects of personality development. Emotional needs at different stages of development.

6. The measurement of height and weight

Reasons for weighing and measuring children. Value and limitations of the height–weight ratio. Individual differences. Unduly large and unusually small children. Who should weigh and measure children. Frequency and techniques of weighing and measuring. Recording and use of growth records. Some causes of growth failure.

7. School health services

The meaning, objectives, value and scope of school health services. The relationships between school authorities and health authorities. The division of responsibility in school health services. Members of the health team and their functions. The teacher as a member of the school health team. Parent responsibility. Educational opportunities in school health services.

8. Measuring visual acuity

The structure and functioning of the eye. Common visual defects. Easily observed signs of visual defects and eye diseases. Measuring vision at school. Making vision testing an educational experience. Securing the correction of visual defects. Types of eye specialists. Classroom conditions affecting eyesight. The prevention and control of eye diseases. The education of children with limited vision.

9. Measuring auditory acuity

Structure and functioning of the ear. Hearing defects and their causes. Signs of hearing loss. Effects of hearing loss upon learning and upon personality. How auditory acuity is measured. Helping children who have loss of hearing. The education of children with varying degrees of hearing loss.

10. Health examinations

The purpose and scope of health examinations at school. Who gives

the examination. Frequency of examination. Persons present at the examination. The teacher's role in the health examination. Recording the findings. Referral. Follow-up. Making the examination an effective learning experience.

11. Dental examinations

Structure and functions of teeth. The development of the teeth. The nature and incidence of dental defects. The importance of the sixth-year molar. Dental defects and diseases. Protective measures for dental health. What constitutes adequate dental service. The school programme in dental health. Dental health education.

12. School health records

What data are recorded. Characteristics of a valuable health record. When and by whom are health records made. Keeping health records up to date. Accessibility of records. Uses of health records. The classroom teacher's responsibility.

13. Health counselling

The nature and purpose of health counselling. Who should do it. Principles of effective health counselling. Establishing rapport. Procedures in counselling. Use of health records. The role of the classroom teacher in counselling.

14. Communicable disease control

The nature and prevalence of common communicable diseases. Responsibility for communicable disease control. Control measures. Basis of excluding children from school. Similarity in the initial symptoms of common colds and certain other communicable diseases. Policy regarding the closing of schools during epidemics. Immunization. Skin infections and infestations. Utilization of disease situations as learning experiences.

15. First aid and care of emergencies

The meaning of first aid. School responsibility. The allocation of responsibility for giving first aid. Written statements of school policy. The nature and use of first aid kits. Caring for sick or injured children at school. Transportation of sick or injured children. Accident and illness records. Legal liability. Accident insurance.

16. Special health problems

Diseases which present school problems. Cardiac disorders. Rheumatic fever. Epilepsy. Cerebral palsy. Diabetes. Crippling defects. Osteomyelitis. Tuberculosis. Poliomyelitis. Rickets.

School procedures with respect to these and other special health problems.

17. Malnutrition

What is malnutrition? Prevalence. Causes. Signs and symptoms. Nutritional status of school children. An adequate programme of nutrition education. The coordination of classroom instruction with extra-class experiences in the school lunchroom, the school garden and elsewhere. Sources of help.

18. Mental health

Characteristics of good mental health. Mental health in relation to learning. Emotional disorders. The background of behaviour. Conditions contributing to mental health at school. Identifying the disturbed child. Sources of help.

19. Education for family living

Basic principles. Effective education for family living today. The role of parents. The responsibility of the school. Social customs and the family. The selection of mates. The place of sex education in the curriculum. The teacher's responsibility in family life education. Answering questions of little children. Sex instruction in the upper grades. Gaining community support. Informational material for each age group.

20. Accident prevention and safety education

The nature of the problem. What is safety education? Safe school living. Care and reporting of accidents. The programme of safety education in primary and secondary schools.

21. Contributions of physical education

The activity-rest cycle. Objectives of physical education. Contributions to growth, strength, vigour, skills and endurance. Contributions to social competencies and ethical character. Contributions to personality. Health values of recreation. The school programme of physical education. Athletics. Body mechanics. Physical education and community recreation.

22. Planning for health instruction

Fitting health instruction into the curriculum. Individual health counselling. Utilizing healthful school living for health education. Incidental teaching and the utilization of special events and happenings. Health education through school health services. Correlation and integration of health with other subjects. Health units incorporated in other subjects. Direct health instruction. Factors

that determine what to teach. The learning process. The presentation of subject matter. The gradation of health and safety instruction. Emphasis at different age levels. Developing a unit of work. General plans for the year's programme of health instruction. The selection of methods. Factors determining choice. Principles underlying selection. Relative values of different types of teaching. Relative effectiveness of different experiences. The use of special techniques and teaching aids.

23. Resources in health education

Kinds and values of source material. The evaluation of textbooks. Audio-visual aids. How to secure resource material from the various available sources.

24. School, home and community relationships

Learning the health status in home and community. The relationship of the teacher and the school to the home. Parent contacts with the teacher and the school. The teacher's responsibility toward community health and community development. Home-and-school or parent–teacher organizations. Other organizations in the community which influence the health education of pupils and students.

25. Evaluation

Purposes of evaluation. Scope of evaluation in school health. Who evaluates. When does evaluation take place. Evaluation procedures. Evaluation of the programme itself. Measurement of health status. Evaluation of knowledge. Evaluation of attitudes. Evaluation of habits. Evaluation of improvements in school, home and community. Instruments of evaluation.

Bibliography

THERE FOLLOWS a list of publications of the United Nations Educational, Scientific and Cultural Organization and the World Health Organization on the subject of Health Education. Attention is particularly drawn to No. 9, *Health Education*, an annotated bibliography of 55 pages.

Information concerning recent health education curricula and other technical publications in this field is best secured by communicating directly with (*a*) appropriate National, State or Provincial Education Authorities, (*b*) appropriate National, State or Provincial Public Health Authorities or (*c*) Regional or Headquarters Offices of the World Health Organization or the United Nations Educational, Scientific and Cultural Organization.

The following references are arranged in chronological order.

1. *School Health Services*, Report of the Expert Committee on School Health Services, WHO, Geneva, 1951. 36 pp. (Technical Report Series No. 38)
2. *Expert Committee on Health Education of the Public*, First Report, WHO, Geneva, 1954. 41 pp. (Technical Report Series No. 89)
3. *School Health Education in South-East Asia*, Report of the Technical Discussions held at the Ninth Session of the Regional Committee, WHO Regional Office for South-East Asia, New Delhi, India, 1956. 17 pp.
4. *Seminar on Health Education of the Public in Africa*, Sponsored by the WHO Regional Office for Africa, in collaboration with the French Government, 1957. 35 pp. Not for sale. Distributed by the Regional Office for Africa of the World Health Organization, Brazzaville.
5. *Training of Health Personnel in Health Education of the Public*, Report of the Expert Committee, WHO, Geneva, 1958. 40 pp. (Technical Report Series No. 156)
6. *Seminar on Health Education of the Public*, Sponsored by the World Health Organization Regional Office for the Eastern

Mediterranean Region, 1959. 75 pp. Not for sale. Distributed by the Regional Office of the Eastern Mediterranean Region, World Health Organization, Alexandria, U.A.R.

7. *Health Education of the Public*, Report of a Conference sponsored by the Regional Office for Europe of the World Health Organization in collaboration with the Ministry of the Interior of the Federal Republic of Germany. Not for sale. Printed in 1959 and distributed by the Regional Office for Europe of WHO, Copenhagen. 68 pp.
8. *Teacher Preparation for Health Education*, Report of a joint WHO/Unesco Expert Committee, WHO, Geneva, 1960. 19 pp. (Technical Report Series No. 193)
9. *Health Education*, an annotated bibliography, Unesco, Paris. 55 pp. (Education Abstracts, Volume XIV, No. 1, 1962)
10. *Report on the Seminar on Child Health and the School*, Sponsored by the World Health Organization Regional Office for the Western Pacific and the United Nations Educational, Scientific and Cultural Organization, 1962. 47 pp. Not for sale. Printed and distributed by the Regional Office for the Western Pacific of the World Health Organization.
11. *Preparation of Teachers for Health Education*, Report on a Symposium organized jointly by the Regional Office for Europe of the World Health Organization and the United Nations Educational, Scientific and Cultural Organization, 1962. 42 pp. Not for sale. Distributed by the Regional Office for Europe of the World Health Organization, Copenhagen, and the United Nations Educational, Scientific and Cultural Organization, Paris.
12. *Health Education in the USSR*, a report prepared by the Participants in a Study Tour organized by the World Health Organization, WHO, Geneva, 1963. 69 pp. (Public Health Papers No. 19)
13. *PAHO/WHO Inter-Regional Conference on the Post-graduate Preparation of Health Workers for Health Education*, WHO, Geneva, 1964. 48 pp. (Technical Report Series No. 278)
14. *Report of the Joint FAO, Unesco, WHO Meeting on the Teachers' Role in Nutrition Education*, Unesco, Paris, 1965, ED213, Main Series Documents. (Published in English, French and Spanish)